PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Case No. 05-476-C)

In re the Application of:)
)
    Choon Geun Cho   )
)
International Application No: PCT/KR2004/02466   )   Examiner: To be assigned
U.S. Application No.: 10/567,529   )
)   Group Art Unit: 3662
Int'l Filing Date: September 24, 2004   )
U.S. Filing Date: February 7, 2006   )   Confirmation Number: 9262
)
For: Apparatus and Method for Tracking the   )
       Position/Object Using a Mobile   )
       Communication Network   )

Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL LETTER

Sir/Madam:

    In regard to the above identified application.

1.   We are transmitting herewith the attached:
    a) Copy of Decision on Petition Under 37 C.F.R. § 1.47(b), mailed May 10, 2007;
    b) Renewed Petition Under 37 C.F.R. § 1.47(b) By Person Having Proprietary Interest to File Application On Behalf Of Inventor Who We Have Been Unable to Locate;
    c) Statement Establishing Proprietary Interest By Person Signing on Behalf of Nonsigning Inventor and Statement Under 37 C.F.R. § 3.73(b), including exhibits;
    d) Declaration In Support Of Petition Under 37 C.F.R. § 1.47(B) By Person Having Proprietary Interest To File Application On Behalf Of Inventor, signed by Jiwon Lim;
    e) Memorandum of Law in Support of Petition Under 37 C.F.R. § 1.47(B) By Person Having Proprietary Interest to File Application on Behalf of Inventor;
    f) Declaration in Support of Petition Under 37 C.F.R. § 1.47(B) By Person Having Proprietary Interest to File Application on Behalf of Inventor, signed by Joo-Young Kim, including exhibits; and
    g) Return Receipt Postcard.

2.   With respect to fees:
    a) Please charge any underpayment or credit any overpayment to our Deposit Account No. 13-2490.

3.   CERTIFICATE OF MAILING UNDER 37 CFR § 1.10: The undersigned hereby certifies that this Transmittal Letter and the papers, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as "Express Mail Post Office to Addressee," addressed to: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on June 28, 2007 under Express Mail Certificate No. EV839329749US.

Respectfully submitted,

Date: June 28, 2007

Robert J. Irvine III
Registration No. 41,865

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

DOCKETED

Renewal Petition 7-10-07
DUE DATE:
BY:

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO IL 60606

In re Application of : DECISION ON
CHO :
Application No.: 10/567,529 : PETITION UNDER
PCT No.: PCT/KR2004/002466 :
Int. Filing Date: 24 September 2004 : 37 CFR § 1.47(b)
Priority Date: 26 September 2003 :
Attorney Docket No.: 05-476-C :
For: APPARATUS AND METHOD FOR THE :
POSITION OF A PERSON/OBJECT USING A :
MOBILE COMMUNICATION NETWORK :

This is a decision on applicant's petition under 37 CFR 1.47(b) filed in the United States Patent and Trademark Office (USPTO) on 19 March 2007.

BACKGROUND

On 24 September 2004, applicant filed international application PCT/KR2004/002466, which designated the US and claimed a priority date of 26 September 2003. A copy of the international application was communicated to the United States Patent and Trademark Office (USPTO) from the International Bureau on 07 April 2005. The thirty-month period for paying the basic national fee in the United States expired at midnight on 27 March 2006 (26 March 2006 being a Sunday).

On 07 February 2006, applicant filed a submission for entry into the national stage in the United States which was accompanied by, *inter alia*, the U.S. Basic National Fee and the surcharge under 37 CFR 1.492(h).

On 14 September 2006, the United States Designated/Elected Office (DO/EO/US) mailed a NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 (Form PCT/DO/EO/905) indicating, *inter alia*, that an oath or declaration of the inventor in compliance with 37 CFR 1.497(a)-(b) was required. The NOTIFICATION set a two-month extendable period for reply.

On 19 March 2007, applicant submitted the instant petition under 37 CFR 1.47(b). The petition was accompanied by, *inter alia*, a petition/fee for a four month extension of time, a

declaration of facts by Joo-Young Kim, a memorandum of law by Joo-Young Kim, and a declaration of facts by Jiwon Lim.

DISCUSSION

A petition under 37 CFR 1.47(b) must be accompanied by: (1) the fee under 37 CFR 1.17(h), (2) factual proof that the inventor refuses to execute the application or cannot be reached after diligent effort, (3) a statement of the last known address of the inventor, (4) an oath or declaration by the 37 CFR 1.47(b) applicant on behalf of and as agent for the non-signing inventor, (5) proof that the 37 CFR 1.47(b) applicant has sufficient proprietary interest in the application, and (6) a showing that such action is necessary to preserve the rights of the parties or to prevent irreparable damage.

Items (1), (3), (4), and (6) have been met.

Item (2) has not been met. The declaration of facts of Jiwon Lim and the accompanying exhibits have been considered. It appears that the internet searches for Mr. Cho's e-mail address and telephone number may have been too specific. For example, in Exhibit 5, the name "Cho Choon Geun" seems to have been used as a search term along with a range for the "Residence ID". It is not clear if a "Residence ID" is required. If it is, perhaps the range can be broadened. Additionally, a broader search using "Cho Choon" as the name would seem to be reasonable. Similar concerns are present in Exhibit 5. Again, it is not clear that a partial address is required. If it is required, perhaps it should be broadened. Also, it appears that a broader search can reasonably used for Mr. Cho's name.

Item (5) has not been met. The declaration of facts Joo-Young Kim and the memorandum of law by Joo-Young Kim have been considered. The invention disclosure form mentioned in the memorandum appears to be the "Employee's Declaration of Invention" included in Exhibit 3. It is unclear why three additional inventors (You In Ho, Kim Dae Joong, and Yang Ho Yong) are listed in this disclosure form but only one inventor is listed in the international application. The "Assignment" in Exhibit 3 has also been considered. However, the only identifier tying the signed "Employee's Declaration of Invention" and the "Assignment" are the names. Again, four names are given while only one is listed in the international application. The memorandum of law also states that "[a]ll facts in support of the argument and conclusion are set forth in the Declaration of Andrew Choung under M.P.E.P. 409.03(f)." However, a declaration of Andrew Choung does not appear in the application file. Also, the memorandum identifies the application by referring to Schedule A, columns 3-6 and 8. However, these identifiers identify 28 different applications. It appears that a row of Schedule A would need to be identified.

CONCLUSION

For the above reasons, applicants' petition under 37 CFR 1.47(b) is **DISMISSED**, without prejudice.

If reconsideration on the merits of this petition is desired, a proper response must be filed within TWO (2) MONTHS from the mail date of this decision. Failure to timely file the proper response will result in abandonment of this application. Any reconsideration request should include a cover letter entitled "Renewed Petition Under 37 CFR 1.47(b)". No additional petition fee is required. Extensions of time may be obtained under 37 CFR 1.136(a).

Please direct further correspondence with respect to this matter to Mail Stop PCT, Commissioner for Patents, Office of PCT Legal Administration, P.O. Box 1450, Alexandria, Virginia 22313-1450, with the contents of the letter marked to the attention of the Office of PCT Legal Administration.

Daniel Stemmer
Legal Examiner
PCT Legal Affairs
Office of Patent Cooperation Treaty
   Legal Administration
Telephone: (571) 272-3301
Facsimile: (571) 273-0459

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
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    Position/Object Using a Mobile)
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RENEWED PETITION UNDER 37 C.F.R. § 1.47(b) BY PERSON HAVING PROPRIETARY INTEREST TO FILE APPLICATION ON BEHALF OF INVENTOR WHO WE HAVE BEEN UNABLE TO LOCATE

Dear Sir:

Reconsideration of the May 10, 2007 Decision on Petition Under 37 C.F.R. §1.47(b) by a Person Having Proprietary Interest to File an Application on Behalf of a Non-Signing Inventor, filed March 19, 2007, is respectfully requested. Applicants respectfully request the U.S. Patent Office to allow UTStarcom, Inc, to make the Application on behalf of inventor Choon Geun CHO who we have been unable to locate.

In support of this Renewed Petition, Applicants submit:

(i)   Copy of previously submitted Statement Establishing Proprietary Interest By Person Signing on Behalf of Nonsigning Inventor and Statement Under 37 C.F.R. §3.73(b);

(ii)   Declaration in Support of Petition Under 37 CFR §1.47(b) By Person Having Proprietary Interest to File Application on Behalf of Inventor, signed by Joo-Young Kim;

(iii)   Memorandum of Law in Support of Petition Under 37 §CFR 1.47(b) By Person Having Proprietary Interest to File Application on Behalf of Inventor, including exhibits, signed by Joo-Young Kim; and

(iv)   Updated Declaration in Support of Petition Under 37 CFR §1.47(b) By Person Having Proprietary Interest to File Application on Behalf of a Nonsigning Inventor, including exhibits, signed by Jiwon Lim.

I.   Background

Applicant's previous petition was dismissed without prejudice for two reasons: 1) the factual proof that the inventor refuses to execute the application or cannot be reached after diligent effort was allegedly insufficient; and 2) Applicant's proof that it has proprietary interest in the instant application was allegedly insufficient.

II.   Discussion

UTStarcom, Inc. respectfully submits that it has been unable to locate inventor Choon Geun CHO. Every attempt to obtain Choon Geun CHO's signature has been unsuccessful. As evidenced by the accompanying updated declaration of Jiwon Lim, continuous and diligent efforts have been made to obtain Choon Geun CHO's signature on declarations for this case. Furthermore, as demonstrated by accompanying Memorandum of Law and Declaration of Joo-Young Kim, UTStarcom is the owner of the invention described in the instant application. Based on such diligent efforts to obtain Choon Geun CHO's signature on the declaration for this case and based on the facts and law outlined in the Memorandum of Law and Declaration of Joo-Young Kim, Applicants believe that the requirements of 37 C.F.R. § 1.47(b) and MPEP § 409.03 have been met.

A. Applicants Have Made A Diligent And Comprehensive Search For The Inventor

In the Decision on Petition Under 37 CFR §1.47(b), the Office suggested that the internet searches performed to locate Mr. CHO were too specific. As evidenced in the accompanying declaration of Ms. Jiwon Lim, Korean webmail services require a user to enter his or her full name and full residence identification number in order to register for webmail. This information is used by webmail services to confirm the identity of the person registering for webmail service. Therefore, searching by residence ID is the most effective way to locate a person's webmail address. In addition, broadening the searches to use partial names would not be effective for the same reason; a person must use his or her full name to register for webmail service in Korea. Ms. Lim has performed numerous searches for inventors' webmail addresses, and has concluded that this is the most effective and accurate way to search, and that a broader search would be ineffectual. Furthermore, the searches performed, including queries of KOIS (the Korean equivalent of "411" service) have provided no information regarding the location of Mr. CHO. Applicants believe that these searches are comprehensive, and that all efforts to locate the inventor, Mr. CHO, have been exhausted.

B. Applicants Have Established Proprietary Interest In The Instant Application

The Office found the evidence supporting Applicant's claim of proprietary interest in the instant application to be insufficient. The Office cited the following problems with respect to proprietary interest: 1) it is unclear why additional inventors are listed in the "Employee's Declaration of Invention", while only one inventor is listed in the international application; 2) The "Assignment" and "Employee's Declaration of Invention" are only connected by the listed inventors' names; 3) the Memorandum of Law cites the "Declaration of Andrew Choung," but Mr. Choung's declaration was not submitted, and 4) Applicants did not specify which row of Schedule A identifies the instant application.

With respect to the discrepancy between the Memorandum of Law and Declaration, Applicants regret the typographical error, and enclose a corrected Memorandum of Law which correctly identifies the supporting Declaration of Joo-Young Kim (also enclosed), rather

than Declaration of Andrew Choung. Furthermore, Applicants direct the Office to Row 14 of Schedule A, a copy of which is enclosed, which identifies the instant application.

With respect to the alleged insufficiency of proof that Applicants have proprietary interest in the instant application, the Applicants respectfully submit that the previously submitted documents together with the enclosed documents prove that Applicants have sufficient proprietary interest to file this application without the signature of the inventor. MPEP §409.03(f) states that, when all inventors have refused to cooperate, or cannot be located, the applicant must prove proprietary interest by showing that "A) the invention has been assigned to the applicant; B) the inventor has agreed in writing to assign the invention to the applicant; **OR** C) the applicant otherwise has sufficient proprietary interest in the subject matter to justify the filing of the application."

i.   Inventorship must be assumed to have been correctly determined

Applicants submit that the discrepancy between inventors listed on the "Employee's Declaration of Invention", included in Exhibit 3, and the listed inventor of the instant application is not a sufficient ground for dismissal of this petition. As the Office is surely aware, inventorship is determined based on the claims of the application. Thus, while several people may have contributed to the invention described in the Employee's Declaration of Invention, it is possible for only one inventor's contribution to be claimed in a resulting patent application. The instant application was prepared first as a Korean national application, and inventorship, based on the claims of that application, was determined at that time. It must be assumed that inventorship was correctly based on the claims of that application, which are echoed in the instant application.

ii.   The inventor signed the "Employee's Declaration of Invention"

Applicants submit that, regardless of the scope of inventorship indicated by the "Employee's Declaration of Invention," the Declaration of Invention, signed by the inventor of the instant application, clearly indicates that the inventor was required to assign, and did in fact assign, the rights to the invention to Hyundai Syscomm, which subsequently assigned its rights to the invention to UTStarcom (see previously submitted Assignment documents).

iii. Under Korean law, UTStarcom is the *de facto* owner of the Application

Even if the inventor's assignment of the invention, which is explicitly required by the "Employee's Declaration of Invention" is not sufficient to establish UTStarcom's proprietary interest in the instant application, under Korean law, UTStarcom is the *de facto* owner of the application. While the Applicants do not believe that the assignment documentation previously presented is insufficient, those documents are not necessary to prove that the Applicants have sufficient proprietary interest to file this application without the signature of the inventor.

The accompanying Memorandum of Law and Declaration signed by Joo-Young Kim address the issue of ownership of the instant application. Specifically, under Korean law an invention and the resulting patent application are owned by an employee's company unless and until the employee successfully challenges this ownership, which did not occur in the instant case. The Korean Patent Act provides that a patent application of an employee may be filed directly by the employee's company, without an explicit assignment from the employee to the employee's company.   Even if the Assignment and Employee's Declaration of Invention are insufficient to establish proprietary interest in the instant application, UTStarcom should be considered the owner of the application based on the applicable Korean law. Therefore, even if the Applicants have not established proprietary interest, pursuant to MPEP §409.03(f)(A) or (B), Applicants respectfully submit that proof under §409.03(f)(C) has been sufficiently established.

III.   Conclusion

Filing of the application without Oath or Declaration executed by Choon Geun CHO is necessary to preserve the rights of Applicant UTStarcom, Inc. Applicant UTStarcom, Inc. will suffer irreparable harm if not allowed to apply for a patent for the above-referenced Application because the United States Patent and Trademark Office will hold the present Application abandoned if it is without an executed Oath or Declaration. The Applicants respectfully submit that items (2) and (5) of 37 CFR §1.47(b) have been met, and request that this Petition be granted.

No further fee is believed due at this time. Please charge any underpayment, or credit any overpayment, to Deposit Account 13-2490.

Respectfully submitted,

Date: 6/27/02

Robert J. Irvine, III
Reg. No. 41,865
McDonnell Boehnen Hulbert & Berghoff LLP
300 South Wacker Drive, Ste. 3100
Chicago, IL 60606
Tel: 312 913 – 0001
Fax: 312 913 – 0002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
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In re the Application of:)	
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Choon Geun Cho)	
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International Application No: PCT/KR2004/02466)	Examiner: TBA
U.S. Application No.: 10/567,529)	
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For: Apparatus and Method for Tracking the)	
Position/Object Using a Mobile)	
Communication Network)	

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P.O. Box 1450
Alexandria, VA 22313-1450

**STATEMENT ESTABLISHING PROPRIETARY INTEREST BY
PERSON SIGNING ON BEHALF OF NONSIGNING INVENTOR
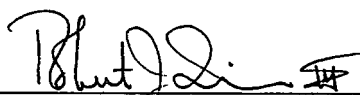AND STATEMENT UNDER 37 C.F.R. § 3.73(B)**

UTStarcom, Inc. has a sole proprietary interest in the present application. The invention,

entitled "APPARATUS AND METHOD FOR TRACKING THE POSITION/OBJECT USING A MOBILE

COMMUNICATION NETWORK," was originally assigned by the inventor to Hyundai Syscomm

on November 30, 2002, as part of Hyundai Syscomm's employee invention compensation

policy, and was filed as Korean National Application Number 2003-0066875 (Exhibit A). On

April 27, 2004, UTStarcom, Inc., through its wholly owned subsidiary in Korea, UTStarcom

Korea Limited, acquired Hyundai Syscomm's Intellectual Property Portfolio, including the

rights to the above-referenced application, corresponding to Korean National Application

Number 2003-0066875 (Exhibit B, page 46 of 46, entry number 1309). I establish this

proprietary interest by attaching a copy of the assignment of this invention by the nonsigning

inventor to Hyundai Syscomm, Inc. as recorded with the U.S. Patent and Trademark Office

(Exhibit A), and a copy of the assignment of this invention by Hyundai Syscomm, Inc. to

UTStarcom Korea Limited as recorded with the U.S. Patent and Trademark Office (Exhibit B).

As such, UTStarcom, Inc. is presently the assignee and owner of the rights to the above-

referenced application.

This STATEMENT ESTABLISHING PROPRIETARY INTEREST BY PERSON SIGNING ON

BEHALF OF NONSIGNING INVENTOR is made by Robert J. Irvine, III, a person authorized to

act on behalf assignee UTStarcom, Inc.

Respectfully submitted,

Date: <u>March 14, 2007</u>

Robert J. Irvine, III
Registration No. 41,865
McDonnell Boehnen Hulbert & Berghoff LLP
300 South Wacker Drive, Ste. 3100
Chicago, Il 60606
Tel: 312 913 0001
Fax: 312 913 0002

2

EXHIBIT A

UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

MARCH 14, 2007

PTAS
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
ROBERT J. IRVINE III
CHICAGO, IL 60606

500238908A

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UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF
THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS
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REFERENCED BELOW.

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CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 571-272-3350.
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MAIL STOP: ASSIGNMENT SERVICES BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 03/14/2007   REEL/FRAME: 019008/0354
                                       NUMBER OF PAGES: 20

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).
DOCKET NUMBER: 05-476-C

ASSIGNOR:
   CHO, CHOON GEUN   DOC DATE: 11/30/2002

ASSIGNEE:
   HYUNDAI SYSCOMM, INC.
   SAN 136-1, AMI-RI, BUBAL-EUB,
     ICHEON-SI
   GYEONGGI-DO, DEM REP OF KOREA

   467-701

SERIAL NUMBER: 10567529   FILING DATE:
PATENT NUMBER: ISSUE DATE:
TITLE: APPARATUS AND METHOD FOR TRACKING THE POSITION OF A PERSON/OBJECT
       USING A MOBILE COMMUNICATION NETWORK

019008/0354 PAGE 2

KIMBERLY WHITE, EXAMINER
ASSIGNMENT SERVICES BRANCH
PUBLIC RECORDS DIVISION

PATENT ASSIGNMENT

Electronic Version v1.1
Stylesheet Version v1.1

03/14/2007
500238908

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Choon Geun Cho	11/30/2002

RECEIVING PARTY DATA

Name:	Hyundai Syscomm, Inc.
Street Address:	San 136-1, Ami-Ri, Bubal-eub, Icheon-si
City:	Gyeonggi-do
State/Country:	KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF
Postal Code:	467-701

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	10567529

CORRESPONDENCE DATA

Fax Number: (312)913-0002
Correspondence will be sent via US Mail when the fax attempt is unsuccessful.
Phone: 3129130001
Email: docketing@mbhb.com
Correspondent Name: McDonnell Boehnen Hulbert & Berghoff LLP
Address Line 1:   300 South Wacker Drive
Address Line 2:   Robert J. Irvine III
Address Line 4:   Chicago, ILLINOIS 60606

ATTORNEY DOCKET NUMBER:	05-476-C
NAME OF SUBMITTER:	Robert J. Irvine III

Total Attachments: 18
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社 外 秘

직무 발명 신고서

신고일:200 년 월 일

발명실	결재	업무코드		승인권자	현장관리자	검토	법제특허부	결재	업무코드		승인권자
		주발명자	검토	팀장				기안	검토	승인
	직위/성명		/			/		직위/성명	GW1·주배가·전역전		비
	일자	/	/	/	관리번호			일자	1.3.5.10.영구	보안등급 1.2.3 대외비
	보존년한	0.1.2.3.5.10.영구									

사내 직무발명보상기준에 의거하여 출원/등록을 의뢰하며, 국내/외 등록권리를 양도합니다.

발명자 기재사항	발명의 명칭	대인/대물의 위치추적에 적합한 저전력형 소형 CDMA 무선송수신 장치
	발명의 개요	본 발명은 대인/대물의 위치추적에 있어 무선송수신 장치를 조작할 능력이 없거나 휴대하기가 힘든 경우에 적합한 부호분할 다중접속(CDMA) 기술을 이용하는 무선송수신 장치에 관한 것으로, 기존 CDMA 이동통신망에 접속할 수 있는 최소의 기능, 위성위치확인 시스템(GPS) 칩 또는 위치추출 알고리즘을 이용한 현재의 위치정보 추출 기능, 추출된 위치정보, 개인식별 정보 및 휴대자의 긴급상황을 알릴 수 있는 무선송신 기능 및 무선송수신 장치를 휴대한 대인/대물의 주위 사람들에게 현재 처한 상황을 알려줄 수 있는 외부알림 기능 등을 갖는 무선송수신 장치에 관한 것이다.
	관련PROJECT명	
	실시상황	☐착상 ☐설계완료 ☐시험(중,완료) ☐사업화(준비중,실시중)
	본발명의 발표상황	☐미발표 ☐ 발표예정 ☐ 旣발표 ※旣발표 또는 발표 예정인 경우 발표(예정)일과 관련논문등 기입 요망 [발표(예정)일:2000년 월 일, 관련논문:]
	선행특허자료	국 내 외 국
	출원완급	☐ 보 통 ☐ 지 급 —>(일이내) 지급출원 이 유
	외국출원	☐ 유 (이유:) ☐ 무
	KEY WORD	CDMA, 위치추적

법제특허부 기재사항	접수일	200 년 월 일 │ 대리인 피닉스 │ 전담자관리번호 042003-03-0002
	국내출원	☑ 특허 ☐ 실용 ☐ 공개기보 ☐ 출원보류(이유:) 심사청구 ☒유 ☑무 │ 전략특허PROJECT명 60
	외국출원	☐ 유 ☐ 무 │ 출원등급 B 심의여부 ☐ 유 ☐ 무 │ *대리인 특허명세서작성 참조사항*

출 원 국 가 선 정	☐개별국출원 ☐ EPO출원 ☐ PCT출원		☐사무소 자체 국내출원 ☑특허팀검토후 국내출원 ☐국내외 동시출원	검토의견
	1순위	5순위		OK.
	2순위	6순위		
	3순위	7순위		
	4순위	8순위		
	비고			

< 발명 평가내용 >

구 분	내 용	평가점수
기 술 성	단순 조합 기술임	☐ 1점
	약간 높은 수준을 요하는 기술임	☐ 3점
	고도의 수준을 요하는 기술임	☐ 5점
실현가능성	이론상 실현은 가능하나, 실험계획은 없슴	☐ 1점
	테스트 하려면 관련기술의 발전이 요구됨	☐ 2점
	테스트중이거나 예정임	☐ 3점
	양호한 테스트 결과 얻음(자료첨부 가능)	☐ 5점
	현재 사업화 준비중 또는 실시중임	☐ 7점
효　과	개선된 효과의 수준은? (공정 단순화, Yield, Cost 등의 측면)	☐ 3점　☐ 2점　☐ 1점
발명중요도	기술공개로 타사 권리확보를 방어하는 수준임	☐ 1점
	양산에 적용(예정) 가능한 발명임	☐ 3점
	반드시 필요한 독점 기술임	☐ 5점
평가결과		(　　　) 점

(좌측 세로) 발명 실장 기재 사항

주)※상기 발명 평가표는 반드시 실장이 직접 기재하시기 바랍니다.

　　※"실현가능성"란에서 5점,7점에 해당된 발명은 증빙 자료가 반드시 필요 합니다.

　　※평가를 완료하신후 평가결과를 기입 바랍니다.

< 외국출원 평가내용 >

발명의 적용제품 현　황	*적용제품: *관련기술: *적용시기:	*복수제품에 적용되는 경우 전부 기재하시기 바라며, 향후 적용 제품경우 예상시점을 기재요망

| 평가내용 | ☐ 절대 필요 ☐ 국내출원후 1년간 관망 ☐ 필요 없음 ☐ 개별국출원,　☐ EPO출원,　☐ PCT출원 기술적측면 경제적측면 | 출원희망국가 |

출원희망국가	
1순위	
2순위	
3순위	
4순위	
5순위	
6순위	
7순위	
8순위	

평가자	
성명:	
직위:	
서명:	

社 外 秘

		(한글) 조 춘 근	(	) 개발 Group	(	)실	
발명자 1	성명	(한문) 曹 椿 瑾	직위	사번 H28469	TEL (829 -7414)		
		(영문) ChoonGeun Cho	주민등록No 640201 -			
	E-mail double	주소 (-) 서울 광송타구 가락동 가락시영 101 118-31			서 명	

		(한글) 유 인 호	(	) 개발 Group	(	)실	
발명자 2	성명	(한문) 劉 仁 鎬	직위 과장	사번 H19343	TEL (829 -7401)		
		(영문) You In ho	주민등록No 660203 -			
	E-mail ihyo@hysy.com	주소 (-) 서리 성북구 정릉동 동아 아파트2-703			서 명	

		(한글) 김 대 중	(	) 개발 Group	(	)실	
발명자 3	성명	(한문) 金 大 中	직위	사번 H18436	TEL (829 -7414)		
		(영문) Kim Dae Jong	주민등록No 61-3-4 -			
	E-mail fordj	주소 (-) 서초 서초구 잠원동 신반포 한신아파트 314-1211			서 명	

		(한글) 양 호 룡	(	) 개발 Group	(	)실	
발명자 4	성명	(한문) 梁 虎 龍	직위	사번 H18075	TEL (829 -7443)		
		(영문) YANG HO Yong	주민등록No 721231 -			
	E-mail liger	주소 (-) 서울시 노원구 상계1동 주공아파트 596-3			서 명	

		(한글)	(	) 개발 Group	(	)실	
발명자 5	성명	(한문)	직위	사번	TEL ( )		
		(영문)	주민등록No -			
	E-mail	주소 (-)			서 명	

		(한글)	(	) 개발 Group	(	)실	
발명자 6	성명	(한문)	직위	사번	TEL ( )		
		(영문)	주민등록No -			
	E-mail	주소 (-)			서 명	

(발명자 인적사항)

㈜1.주소는 상세히 기재하시고, E-mail은 반드시 *회사계정*으로 기재하시기 바람.
  2.영문기재시 Fullname을 기재하시기 바람.

양 도 증

양수인	경기도 이천시 부발읍 아미리 산 136-1
	주식회사 현대시스콤 대표이사 장 성 익
양수일	년 월 일

하기의 발명에 관하여 국내 및 외국에 지적재산권 등록을 받을 수 있는 제권리를 상기 양수인에게 양도합니다.

발명의 명칭	
발명의 개요	(신규 또는 개량된 부분을 중심으로 기재하십시오.)

	성 명	서 명	주민등록번호	주 소 (자세히 기재)
양도인	한자 (曺 椿 漢) 영문 (Cho choon Geun)		090201 -	서울시 송파구 가락동 시영 APT. 118-3II호
	한자 (劉 仁 鎬) 영문 (You In ho)		660203	서울시 성북수 정릉4동 807 중앙하이츠 APT 2-1102
	한자 (金 大 中) 영문 (Kim Dae Joong)		61.3.4	서울시 서초구 잠5 2동 한신아파트 314-1211
	한자 (梁 虎 龍) 영문 (Yang Ho Yong)		124231 -	서울시 노원구 공릉1동 596-31. 3층 3II호
	한자 ( ) 영문 ( )			
	한자 ( ) 영문 ( )			

註) 1. 공동발명의 경우, 전원이 양도인에 기재하고 서명하시기 바람.
　　2. 영문 성명 기재시 Full Name을 기재하시기 바람.

HYUNDAI SYSCOMM

Confidential

Employee's Declaration of Invention

Date: Month/Day/Year

<table>
<tr><td rowspan="6">Invention Team</td><td rowspan="2">Approval</td><td>Work Code</td><td></td><td>Approving Authority</td><td rowspan="4">On-the-job Maintenance Team</td><td>Reviewer</td><td rowspan="6">Patent Team</td><td rowspan="2">Approval</td><td>Work Code</td><td></td><td>Approving Authority</td></tr>
<tr><td>Primary Inventor</td><td>Reviewer</td><td>Approved by</td><td rowspan="2"></td><td>Drafter</td><td>Reviewer</td><td>Approved by</td></tr>
<tr><td></td><td>signed</td><td></td><td>signed</td><td></td><td>signed</td><td>signed</td><td>signed</td></tr>
<tr><td>Position / Name</td><td>GJ/ CHO, Choon Geun</td><td></td><td>BJ/HAN, M. J.</td><td>/</td><td>Position / Name</td><td>SW/LEE, Chun Mi</td><td>DL/YOON, Hyoung Jin</td><td></td></tr>
<tr><td>Date</td><td>/</td><td>/</td><td>/</td><td colspan="2">Control No.</td><td>Date</td><td></td><td></td></tr>
<tr><td>Years in Storage</td><td colspan="3">0, 1, 2, 3, 5, 10, Permanent</td><td></td><td></td><td>Years in Storage</td><td>1, 3, 5, 10, P</td><td>Security Rating</td><td>1, 2, 3. Confidential</td></tr>
</table>

Under the provisions of the employee's invention compensation policy, I request to proceed with the filing/registration of my invention and to assign its rights for domestic and international registrations.

<table>
<tr><td rowspan="12">Statement by Inventor</td><td>Title of the Invention</td><td colspan="2">SMALL-SIZED AND LOW-POWER CONSUMING CDMA WIRELESS TRANSMISSION/RECEPTION APPARATUS APPROPRIATE FOR TRACKING PEOPLE/OBJECT</td></tr>
<tr><td>Summary of the Invention</td><td colspan="2">The present invention relates to an apparatus of wireless transmission and reception, which employs a CDMA technology that is appropriate when a user is not able to manipulate a wireless transmission/reception apparatus in tracking a position of people/object, or it is difficult to portably carry the apparatus.   The wireless transmission/reception apparatus includes: a basic function accessible to the conventional CDMA mobile communication networks; a current position extracting function using a GPS chip or a position information extracting algorithm; a wireless transmission/reception function for notifying extracted position information, user identification information and an emergency condition of the user; and an alarm function for notifying current situation to people adjacent to people/object having the wireless transmission/reception apparatus.</td></tr>
<tr><td>Name(s) of Related Projects</td><td colspan="2"></td></tr>
<tr><td>Status of the Embodiment</td><td colspan="2">☐ Conception ☐ Completed Design ☐ (In, Completed) Testing ☐ (Preparing, In) Business Implementation</td></tr>
<tr><td>Publication Status of the Invention</td><td colspan="2">☐ Unpublished   ☐ Expected to be Published ※   ☐ Published Earlier ※
※ If checked, please specify the (scheduled) date of publication and related dissertations.
[(Scheduled) Date of Publication: Month   Day   , 2000; Related dissertations:]</td></tr>
<tr><td rowspan="2">Prior Art</td><td>Korean</td><td></td></tr>
<tr><td>Foreign</td><td></td></tr>
<tr><td>Filing Term</td><td>☐ Standard
☐ Urgent → (Within   days)</td><td>Reason for Urgent Filing</td></tr>
<tr><td>Foreign Filing</td><td colspan="2">☐ Yes (Reason:) ☐No</td></tr>
<tr><td>Key Word</td><td colspan="2">CDMA, position tracking</td></tr>
</table>

<table>
<tr><td rowspan="13">Statement by Patent Team</td><td colspan="2">Date of Receipt</td><td></td><td>Agent</td><td>Phoenix</td><td>Hyundai Syscomm Ref.</td><td colspan="3">CM20032-08-0002</td></tr>
<tr><td colspan="2" rowspan="3">Korean Filing</td><td colspan="8">☑ Patent ☐ Utility Model   ☐ Journal of Technical Disclosure
☐ Withhold Filing (Reason:)</td></tr>
<tr><td>Request for Examination</td><td colspan="2">☒Yes ☑ No</td><td colspan="2">Strategic Patent Project for the Invention</td><td colspan="3">60</td></tr>
<tr><td colspan="3">☐ Yes   ☐ No</td><td colspan="2">Filing Rating</td><td colspan="3">B</td></tr>
<tr><td colspan="2" rowspan="2">Foreign Filing</td><td colspan="7">*Remarks for Agents writing the specification*</td></tr>
<tr><td>Deliberation</td><td colspan="2">☐ Yes   ☐ No</td></tr>
<tr><td rowspan="7">Designating Countries to File</td><td colspan="3">☐ Direct National Filing   ☐ EPO Filing   ☐ PCT Filing</td><td colspan="5">☐ Domestic filing without Review
☑ Domestic filing after Patent Team Review
☐ Simultaneous Korean & Foreign Filing</td></tr>
<tr><td>1st Priority</td><td></td><td>5th Priority</td><td></td><td rowspan="5">Reviewer's Opinion</td><td colspan="4">OK</td></tr>
<tr><td>2nd Priority</td><td></td><td>6th Priority</td><td></td></tr>
<tr><td>3rd Priority</td><td></td><td>7th Priority</td><td></td></tr>
<tr><td>4th Priority</td><td></td><td>8th Priority</td><td></td></tr>
<tr><td>Note</td><td colspan="3"></td></tr>
</table>

HYUNDAI SYSCOMM

Statement by Manager of Invention Team

< Evaluation of the Invention>

Category	Contents	Evaluation Grade
Technology	Simple technology	☐ 1 point
	Slightly higher technology	☐ 3 point
	Advanced technology	☐ 5 point
Possible Implementation	Theoretically possible to implement, but has no plan for testing	☐ 1 point
	Developments in related technologies are required first for testing	☐ 2 point
	Currently testing or planning to test	☐ 3 point
	Tested and obtained satisfactory results (Attach Documents)	☐ 5 point
	Preparing or currently implementing into one's business	☐ 7 point
Effects	What is the level of improvement? (Simplification of processes, yield, cost etc.)	☐ 3 ☐ 2 ☐ 1 point
Importance	Defending the rights in disclosing the technology	☐ 1 point
	Adaptable (or scheduled) for mass production	☐ 3 point
	Absolutely necessary to obtain exclusive technology	☐ 5 point
Evaluation Result		( ) Point

Note: ※ The Invention Evaluation form must be filled out by the manager of the invention team.
　　　 ※ Evidence is necessary for those inventions that are rated 5 or 7 points in the section of "Possibility for Implementation."
　　　 ※ The Evaluation Result should be filled in only after completing the Evaluation.

<Evaluation for Foreign Filing>

Status of products to which the invention was applied	* Applied Product:	* For cases applied to multiple products, list all product names. For future cases to be applied, mark the estimated period.
	* Related Technology:	
	* Applied Period:	

		Designation of Countries	
Evaluation	☐ Absolutely necessary ☐ Observe for a year after filing domestically ☐ Not necessary	1st Priority	
		2nd Priority	
		3rd Priority	
	☐ Direct National Filing ☐ EPO Filing ☐ PCT Filing	4th Priority	
		5th Priority	
	Technological Factor	6th Priority	
		7th Priority	
		8th Priority	
	Economical Factor	Evaluator	
		Name: Position: Signature:	

HYUNDAI SYSCOMM

Inventor Information									
Primary Inventor	**Name**	(Korean) 조 춘 근	( ) Development Group ( ) Team						
		(Chinese) 曹 椿 槿	**Position**		**Employee ID No.**	H28469	**Tel** (829-7414)		
		(English) Choon Geun Cho	**Residence ID**		690201-*******				
	E-mail	double	**Address**	Siyeong Apt. 118-311, Garak-dong, Songpa-gu,, Seoul			**Signature**		*signed*
Joint Inventor	**Name**	(Korean) 유 인 호	( ) Development Group ( ) Team						
		(Chinese) 劉 仁 鎬	**Position**	GJ	**Employee ID No.**	H19348	**Tel** (829-7402)		
		(English) You In Ho	**Residence ID**		660203-*******				%
	E-mail	ihyou@hysyscom.com	**Address**	Heights Apt. 2-1102, 809 Jeongneung 4-dong, Seongbuk-gu, Seoul			**Signature**		*signed*
	Name	(Korean) 김 대 중	( ) Development Group ( ) Team						
		(Chinese) 金 大 中	**Position**		**Employee ID No.**	H18436	**Tel** (829-7414)		
		(English) Kim Dae Joong	**Residence ID**		670304-*******				%
	E-mail	fordj	**Address**	Sinbanpo Hansin Apt. 314-1211, Jamwon-dong, Seocho-gu, Seoul			**Signature**		*signed*
	Name	(Korean) 양 호 용	( ) Development Group ( ) Team						
		(Chinese) 梁 虎 龍	**Position**		**Employee ID No.**	H18075	**Tel** (829-7403)		
		(English) YANG HO YONG	**Residence ID**		721231-*******				%
	E-mail		**Address**	#301, F3, 596-31 Gongneung 1-dong, Nowon-gu, Seoul			**Signature**		*signed*
	Name	(Korean)	( ) Development Group ( ) Team						
		(Chinese)	**Position**		**Employee ID No.**		**Tel** ( )		
		(English)	**Residence ID**						%
	E-mail		**Address**				**Signature**		
	Name	(Korean)	( ) Development Group ( ) Team						
		(Chinese)	**Position**		**Employee ID No.**		**Tel** ( )		
		(English)	**Residence ID**						%
	E-mail		**Address**				**Signature**		

Note: 1. The full address and e-mail address are required.
2. Write the full name in English.

ASSIGNMENT

Assignee	San 136-1, Ami-ri, Bubal-eup, Icheon-si, Gyeonggi-do
	Hyundai Syscomm, Inc. (Representative: Seong Ick Jang)
Date of Assignment	Year/Month/Day

I/We, the below-named assignor(s) duly assign(s) may/our entire domestic and international rights to proceed with the filing/registration of intellectual property for the invention as indicated below.

Title of Invention	
Summary of Invention	(Describe novel or improved parts of the invention.)

Assignor(s)	Name	Signature	Residence Reg. No.	Address (in detail)
	曺 椿 瑾 Choon Geun Cho	signed	690201-*******	Siyeong Apt. 118-311, Garak-dong, Songpa-gu,, Seoul
	劉 仁 鎬 You In Ho	signed	660203-*******	Heights Apt. 2-1102, 809 Jeongneung 4-dong, Seongbuk-gu, Seoul
	金 大 中 Kim Dae Joong	signed	670304-*******	Sinbanpo Hansin Apt. 314-1211, Jamwon-dong, Seocho-gu, Seoul
	梁 虎 龍 YANG HO YONG	signed	721231-*******	#301, F3, 596-31 Gongneung 1-dong, Nowon-gu, Seoul

Note) 1. In case of joint-inventorship, the entire inventors must write their names as assignors and sign respectively.
2. Write the full name in English.

Hyundai Syscomm, Inc.

1. 발명의 명칭

대인/대물의 위치추적에 적합한 저전력형 다기능 소형 CDMA 무선송수신 장치

2. 발명의 상세한 설명

1) 산업상의 이용분야

본 발명은 대인/대물의 위치추적에 있어 무선송수신 장치를 조작할 능력이 없거나 휴대하기가 힘든 대상에 적합한 부호분할 다중접속(CDMA) 기술을 이용하는 무선송수신 장치에 관한 것으로, 기존 CDMA 이동통신망에 접속할 수 있는 최소의 기능 , 위치정보 추출 기능, 위치/개인식별 정보 및 휴대자의 긴급상황을 알릴 수 있는 무선송신 기능, 무선송수신 장치를 휴대한 대인/대물의 주위 사람들에게 현재 처한 상황을 알려줄 수 있는 외부알림 기능, 무선식별시스템(RFID)을 이용한 개인정보 제공 기능 및 개선된 이동통신망 등록 알고리즘을 통한 저전력 소모 기능 등을 갖는 부호분할다중접속(CDMA) 무선송수신 장치에 관한 것이다.

본 발명은 이동통신망 접속을 위한 최소 기능만 구현되어 있으므로 현재 사용중인 이동통신 단말기의 화면표시 장치나 키패드 등과 같은 부가 장치를 없앨 수 있고, 정보의 전송시 페이징(호출) 채널 및 맥세스 채널을 이용하는 단문문자서비스(SMS) 기능을 이용하고, 개선된 이동통신망 등록 알고리즘을 이용함으로써 전력 소모를 최소화 할 수 있어 무선송수신 장치의 소형화가 가능해지고 따라서 유아, 애완견 등 특히 장치를 휴대하기가 힘들거나 조작 능력이 없는 대상체에 적용할 수 있는 장점이 있다. 또한, 어린이 및 애완견 등이 길을 잃거나 귀중품의 도난, 분실등의 경우 주변의 사람들에게 이를 알릴 수 있는 수단이 있고, 독거 노인등의 갑작스런 발병 및 강도 등과 같은 위급한 범죄 상황에서도 간단한 무선송수신 장치의 조작에 의해 위급 상황을 통제센터에 통보함으로써 신속히 대처할 수 있게 하는 장점이 있다.

2) 종래기술의 설명 및 그 문제점

등록번호 : 20-0164185   "이동통신 전화망을 이용한 위치추적장치"

공개번호 : 특 2002-0004534   "단말기 위치추적 장치 및 그 방법"

공개번호 : 특 2003-0022613   "미아방지 시스템"

최근 이동통신 전화사업자 등에서 실시하고 있는 위치 확인 서비스에 적용된 무선 휴대장치는 화면표시 장치나 키패드 등과 같은 부가 장치가 있고, 정보의 송수신시 트래픽(통화) 채널의 사용 및 고속 이동시 CDMA 이동통신망에 자주 등록하게 됨으로써 전력소모가 많아 밧데리의 소형화가 어려운 등의 단점이 존재하여 무선송수신 장치의 소형화가 힘들게 되고 따라서 유아, 애완견 등 특히 장치를 휴대하기가 힘든 대상체의 유괴, 실종과 같은 사고 상황에 맞는 위치 발신장치로서 부적합한 문제점이 있다. 또한, 미아, 실종 같은 사고 상황에서 주변 사람들에게 현재 상황을 전달할 수 있는 외부알림 기능이 없고, 독거노인의 발병, 긴급환자 등 무선휴대 장치의 조작 능력이 없거나 어려운 경우 간단한 조작을 통해 보호자에 대해 통보할 수 있는 수단이 없으며 환자의 경우 개인신병 정보등이 부재하여 긴급 조치를 취하는데 어려움이 있다.

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대한민국 특허 등록번호 20-0164185 "이동통신 전화망을 이용한 위치추적장치"에서는 이동통신 사업자 전화망의 통신규격인 부호분할 다중접속 기술에 일치하는 전파를 주기적으로 발신하는 소형의 신호발신장치와 이 신호를 수신하여 위치정보와 비상호출 정보를 감지하여 처리하는 이동통신 수단을 이용한 위치추적 장치에 대해 서술하고 있다. 그러나, 유아, 애완견, 치매노인 그리고 자가용과 같은 사물처럼 이동 단말기 휴대자의 직접적인 조작이 불가능하거나 조작 능력이 없는 경우에 비상호출 기능은 적절하지 못하고 대상체의 현재 상황을 주위에 알릴 수 있는 기능이 없어 주변으로부터 도움을 얻을 수 없으며 특히, 기존의 이동통신 전화망에서 단말기의 위치정보 송신을 위해 전파를 주기적으로 발신하는 경우 소형 단말기의 전원 소모가 심해 서비스 이용자가 모르는 사이에 전원이 소모되어 정상적인 위치 판단이 불가능해지는 단점이 있으며, 이와 같은 서비스를 제공하기 위해 기 서비스 중인 이동통신 사업자의 시스템에 부가 장비를 첨가하거나 기능을 수정해야 하는 문제점이 있으며, 기지국 단위의 등록에 의해서만 위치정보를 추출할 수 있어 정확한 위치정보를 획득하는데는 어려움이 있다.

대한민국 특허 공개번호 특 2002-0004534 "단말기 위치추적 장치 및 그 방법"에서는 서비스 사용자에게 대상체의 현재 위치에 대한 정보를 제공할 수 있는 방법과 위치정보 관련 기록매체에 대해 서술하고 있고, 공개번호 특 2003-0022613 "미아 방지 시스템"에서는 위성위치확인 시스템(GPS) 장치를 이용 추출된 대상체의 위치정보를 인터넷을 통해 사용자에게 제공하고 피보호자가 보호자가 설정한 경로를 이탈할 경우 보호자에게 알려주어 미아발생을 방지할 수 있는 방법에 대해서만 서술하고 있다.

상기한 발명들은, 분실, 도난, 길을 잃었을 경우 대상체의 주변 사람들에게 현재 상황을 인식시킬 수 있는 수단이 없고, 대상체의 대략적인 위치만 파악할 수 있어 신속한 상황 처리가 힘들며, 위치정보 서비스를 제공하기 위해 별도의 무선통신 시스템을 갖추어야 한다. 또한, 기존의 CDMA 이동통신망을 이용하는 경우 시스템에 추가 기능을 첨가하거나 수정해야 하며, 무선송수신 장치의 전력 소모가 심해지는 등의 문제점이 있어 무선송수신 장치의 소형화가 어렵게 되고 따라서 유아, 애완견 등 무선송수신 장치를 휴대하기가 힘들거나 조작 능력이 없는 대상체에 적용하기에 적합하지 않다.

3) 종래 문제점을 해결하기 위한 본 발명의 기술적 원리

본 발명은 상기한 문제점을 해결하기 위해 기존의 CDMA 이동통신 전화망을 이용하는 이동 단말기의 기능 중 이동통신망 접속에 필요한 CDMA 필수 기능 및 위성위치확인시스템(GPS) 칩/위치 추출 알고리즘 등을 이용한 위치정보 추출 기능, 푸쉬 버튼과 같은 간단한 조작을 통해 보호자에게 보다 정확한 위치정보 및 긴급상황을 통보할 수 있는 기능, 피보호자 주위 사람에게는 음성 등을 이용하여 비상상황을 인식시킬 수 있는 기능, 무선인식시스템(RFID : Radio Frequency Identfication)를 이용한 개인신상 정보 제공 기능 및 전력소모의 최소화를 위해 개선된 등록절차를 수행하는 기능을 갖는 무선송수신 장치를 제공하는데 그 목적이 있다.

4) 본 발명의 구성 및 그 전반적인 동작설명

상기와 같은 목적을 달성하기 위한 본 발명의 대인/대물의 위치추적에 적합한 저전력형 다기능 소형 CDMA 무선송수신 장치는 이동 통신망 접속을 위한 IS-95, IS-2000 등 표준 규격을 따르는 기본 CDMA 기능 및 개선된 시스템 등록 알고리즘, 위치정보 추출 기능, 비상호출 기능, 외부알림 기능 및 개인신상 정보 제공 기능 등으로 이루어진 특징이 있다.

이하, 첨부된 도면에 의거하여 본 발명의 바람직한 일 실시예를 상세히 설명하면 다음과 같다.

도 1은 현재 서비스 중인 CDMA 이동통신망을 이용한 대인/대물의 위치추적 및 관리장치의 전체 구성도로써, 부호 110은 도 2에 상세히 설명되어 있는 현재 서비스중인 CDMA 이동통신망과 접속할 수 있는 소형의 무선송수신 장치로써 시계나 목걸이 등과 같이 휴대가 편리하도록 제작하는 것이 바람직하다. 120은 상기 무선송수신 장치(110)에서 나오는 신호를 수신하고 필요한 정보를 발신할 수 있는 CDMA 이동통신망의 기지국이며, 130은 여러 개의 기지국을 제어하는 기지국 제어기, 140은 교환기 및 방문자 위치 등록 장치(VLR : Visitor Loaction Register)이고, 150은 홈 위치등록 장치 및 CDMA 이동단말기 인증 장치이다. 또한, 160은 상기 기지국(120)을 통해 접수된 대인/대물의 위치 정보를 보정 및 관리하며, 대인/대물의 비상 호출을 감지할 수 있고, 보호자의 요구가 있을 경우 대인/대물에 위치정보를 요구하는 호출기능 및 피보호자 주변에 긴급상황 통보 의 기능을 수행할 수 있는 위치정보 관리서버이다. 170은 페이징 및 액세스 채널을 이용하는 단문문자 서비스(SMS : Short Message Service) 서버이다.

도 2는 본 발명에 의한 저전력형 다기능 소형 CDMA 무선송수신 장치(110)의 구성 블록도로써, 부호 210은 CDMA 방식을 적용하여 운용중인 기존 이동통신망에서 본 발명에 요구되는 최소의 기능 즉, 파일럿 채널, 동기 채널, 페이징 채널 수신, 액세스 채널 전송을 위한 기본 기능 및 본 발명에서 제안된 도 4의 무선송수신 장치의 전력 소모 최소화를 위한 등록판단 방법이 내재되어 있는 모듈이고, 220은 위성위치확인 시스템(GPS : Global Positioning System) 칩 또는 단말의 위치정보 추출 알고리즘 등을 이용한 위치정보 추출 기능 모듈이며, 230은 사용자의 비상 상황을 푸쉬 버튼과 같이 간단한 조작을 통해 위치정보 관리서버(160)에 통보할 수 있게 하는 비상호출 장치이다. 또한, 240은 개인신상 정보 등을 제공할 수 있는 무선인식시스템(RFID) 모듈, 250은 대인/대인의 주변에 미아, 도난 등의 현재 상황을 스피커 등을 통해 알릴 수 있게 하는 예를 들면, "저는 길을 잃었습니다. 가까운 경찰서나 전화번호 02-xxxx-xxxx로 연락해 주세요" 등의 정보를 알려주는 외부 알림 기능, 260은 비상호출 관련 정보 및 외부 알림음 등이 저장되어 있는 메모리, 270은 이와 같은 기능들을 제어하는 제어기이며, 280은 전원 장치이다.

도 3은 보호자의 위치정보 또는 외부알림 요청과 피보호자 또는 주변 사람들의 비상호출 요청시 전체적인 흐름도로써, 보호자가 위치정보 관리서버(160)에 위치정보/외부알림을 요청하면 위치정보 관리서버에서는 이동통신망(SMS 서버 포함)을 이용하여 무선송수신 장치(110)에 메시지를 전달한다. 무선송수신 장치내의 CDMA 기본 기능(210)이 메시지를 수신하면 제어기(270)는 메시지를 해독하여 위치정보 요구일 경우 위치정보 추출기능(220)을 이용하여 위치정보를 추출한 후 CDMA 기본 기능을 이용 위치정보 관리서버에 알려주게 되고 위치정보 관리서버는 유/무선, 인터

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넷 등의 방법을 통해 보호자에게 현재 피보호자의 위치에 대한 정보를 알려주게 된다. 한편, 외부 알림 요청의 경우, 제어기(270)는 메시지를 해독하여 메모리에 저장되어 있는 외부알림 패턴을 선택하여 외부알림 기능을 통해 외부에 현재 피보호자가 처한 상황을 알려주게 된다. 이때, 외부 알림 기능(250)의 구현은 상기한 바와 같이 일정한 패턴을 미리 메모리에 저장할 수 도 있고, 컨 택터 등을 통한 외부에서의 직접 입력 또는 위치정보 관리서버에서 지시한 내용을 음성합성칩 등 을 이용 스피커 등의 외부알림 장치를 통해 주변 사람들에게 알려줄 수 도 있다. 도 3의 피보호 자에 의한 비상호출은 긴급 상황에 처한 피보호자 및 주변 사람들에 의해 푸쉬버튼과 같은 장치 를 통하여 간단히 요청될 수 있는데 일단 비상호출 기능(230)을 통한 비상호출 요구가 요청되면 제어기(270)는 피보호자의 현재 위치정보를 추출한 후 메모리에 저장되어 있는 긴급상황임을 알 려줄 수 있는 정보와 함께 위치정보를 위치정보 관리서버에 전달하게 되고, 위치정보 관리서버는 이의 상황을 보호자에게 통보하게 된다. 또한, 피보호자가 환자일 경우 병원 등에서는 무선송수신 장치의 내부에 탑재되어 있는 무선인식시스템(RFID)를 이용하여 피보호자의 과거 상태를 파악하 여 신속한 조치를 취할 수 있다.

도 4은 본 발명에서 제안하는 휴대용 무선송수신 장치(110)의 전원 소모 최소화를 위해 기존 CDMA 이동통신망에서 수행하고 있는 등록절차를 수정하여 제안한 순서도로, 기존 통신사업자의 시스템의 수정을 요구하지 않고 단말기 자체에서 동작하는 구조이다. 실제 핸드폰과 같은 CDMA 단말기에서의 전원 소모는 통화 중 가장 심하고, 그 이외에는 시스템에 현재 위치에 대해 등록할 경우이다. 따라서, 빈번한 사용자 등록은 본 발명이 목표로 하는 소형의 이동 단말기에는 적합하 지 않고 일반적으로 CDMA 시스템에서 페이징(호출)도 하나의 기지국 영역에서 수행하지 않고 몇 개의 기지국 영역을 묶은 단위로 수행하므로 본 발명에서 제안하는 등록판단 방법은 단말기(110) 의 전원 소모를 최소화 하는데 효과가 있다. 현재 운용되고 있는 CDMA 이동통신망에서의 단말기 등록은 총 8개의 등록 방법 중 이동통신 사업자가 시스템 최적화를 통해 임의로 수행하고 있으며 시스템 파라미터 메시지 속에 포함하여 단말기에 전송한다. 본 발명에서는 기지국에서의 단말기 (110)의 전원을 켤 때 자동적으로 수행되는 등록(power on registraion), 명령(order)에 의한 등록, 거리 기준 등록 (distance based) 및 시간 기준 (timer based) 등록 방법을 적절히 조합하여 휴대 단말의 등록을 수행한다. 도 4를 자세히 설명하면, 먼저 단말기의 전원을 켜면 이동통신 사업자 망에 자동적으로 등록이 수행되고(410), 단말기에서는 시간 및 거리 기준 타이머가 초기화 된 후 (415), 현재의 위치가 계산된다(420). 기지국에서 강제적 명령에 의한 등록이 요구되면 무조건 등 록을 수행하고(410, 415, 420 수행), 그렇지 않을 경우는 거리와 시간의 적절한 조합에 의해 단말 기가 스스로 등록 수행 여부를 결정하게 된다. 대인/대물이 고속으로 이동하는 경우 빈번한 등록 을 방지하기 위해 거리 기준 타이머가 종료되면(430) 현재 위치를 계산하고(435), 만약 임계치 2 거리 이상 차이가 발생하면 등록을 수행한다(440). 그러나 임계치 2 이하일 경우는 시간기준 타이 머의 상태에 따라 등록을 결정한다. 즉, 시간기준 타이머가 종료된 상황에서 임계치 1 거리 이상 위치 변동이 있을 경우 등록을 수행하고(460), 그렇지 않은 경우는 시간기준 타이머를 초기화 (455)한 후, 거리기준 타이머를 초기화(450)한다. 또한, 임계치 2 이상 거리 차이가 나지 않고, 시 간기준 타이머가 종료되지 않은 경우는 거리기준 타이머만 초기화(450)하여 단말기의 전원 소모 를 최소화 시킨다.

6) 본 발명의 효과

상기한 바와 같이 본 발명은, 기존에 서비스 중인 셀룰러, PCS 및 IMT-2000 등과 같은 CDMA 무선통신 시스템을 이용 무선송수신 장치의 소형화 및 휴대성이 가능하여 유아, 치매 노인, 애완견, 자동차 등과 같이 휴대 단말기의 조작 능력이 없거나 휴대하기 힘든 이용자를 대상으로 위치 정보 서비스를 제공하여 길을 잃거나 유괴 등과 같은 비상상황에 신속히 대처할 수 있는 장점이 있다. 위성위치확인 시스템 칩/위치정보 추출 알고리즘을 탑재함으로써 도심과 같은 무선 전파 수 신이 열악한 환경에서도 더욱 자세한 위치정보를 제공할 수 있고, 단말기 휴대자 주변에 긴급 상 황을 통보하여 주위 사람들의 도움을 얻을 수 있고, 독거 노인등의 갑작스런 발병 및 강도 등과 같은 위험 상황에서도 간단한 단말의 조작에 의해 위급 상황을 통제센터(위치정보 관리서버)에 통 보 및 무선인식시스템(RFID)를 이용함으로써 피보호자의 위급 상황에 신속히 대처할 수 있게 하 는 장점이 있으며, 도난과 같은 같은 범죄 상황에서도 도난물의 위치 및 이동경로를 추적할 수 있으므로 도난 차량이 범죄에 악용되는 것을 미리 예방할 수 있는 효과가 있다.

3. 발명의 권리보호 범위

청구항 1

CDMA 이동 통신망을 이용한 대인/대물 위치추적에 있어,

파일럿 채널, 동기채널, 페이징 채널을 수신할 수 있고, 액세스 채널을 송신할 수 있는 IS-95, IS-2000 등 표준 규격을 지원하고, 전원 소모 최소화를 위해 도 4 와 같이 본 발명에서 제안된 거 리/시간 기준 등록 판단 방법을 탑재한 CDMA 기본 기능(210),

위성위치확인 시스템 칩 또는 위치정보 추출 알고리즘을 이용한 위치정보 추출 기능(220),

간단한 조작을 통해 위치정보 관리서버(160)에 긴급 상황을 알릴 수 있는 비상호출 기능(230),

환자 등의 발병시 개인신상, 병력 등의 정보를 제공하는 무선인식시스템(RFID) 기능(240),

피보호자 주변에 현재 상황을 알릴 수 있는 음성 발호 등을 지원하는 외부알림 기능(250),

개인식별 정보, 상기 비상호출(230) 및 외부알림 기능을(250) 위해 미리 지정된 메시지를 저장할 수 있는 메모리(260) 등으로 구성되어 유아, 애완견 등과 같이 단말기의 조작 능력이 없거나 휴 대하기가 어려운 대상체에 적용할 수 있도록 저전력, 다기능의 소형화된 것을 특징으로 하는 무 신 송수신 장치

청구항 2

상기 1 항에 있어서, 기존의 CDMA 이동 통신망을 이용하는 단말기의 기능 중 본 발명에서 제안 하고 있는 것처럼 파일럿 채널, 동기(싱크)채널, 호출(페이징) 채널 및 액세스 채널의 송수신 기능 등 기존 CDMA 사업자망에 접속할 수 있는 최소한의 기능만 구현하고, 제안된 등록 판단 방법을 이용 저전력을 이용할 수 있어 휴대가 간편한 소형화를 추구한 CDMA 기본 기능(210).

청구항 3

상기 1 항에 있어서, 무선송수신 장치의 소형화가 가능하도록 전원 소모를 최소화 시킬 수 있는 도 4 와 같은 거리/시간 기준 등록 판단 알고리즘

청구항 4

상기 1 항에 있어서, 대인/대물의 주변에 현재 상황을 알릴 수 있는 기능 예를 들면, "저는 길을 잃었습니다. 가까운 경찰서나 전화번호 02-xxxx-xxxx 로 연락해 주세요" 등의 정보를 저장하여 위치정보 관리서버(160) 지시에 의해 외부에 스피커 등을 통해 알릴 수 있는 외부알림 기능(250).

청구항 5

상기 1 항에 있어서, 무선인식시스템(RFID)을 이용하여 긴급 환자 발생시 과거 신상 정보를 얻을 수 있어 신속한 조치를 취할 수 있게 하는 RFID 기능(240).

4. 도면의 간단한 설명

도 1 은 기존의 CDMA 이동통신망을 이용한 대인/대물 위치추적 및 관리 장치에 대한 전체 구성
도

＊도면의 주요 부분에 대한 부호의 설명＊

110 : 휴대용 소형 무선송수신 장치

120 : 기지국

130 : 기지국 제어기

140 : 교환국 및 방문자 위치등록 장치

150 : 홈 위치등록 장치 및 인증 장치

160 : 위치정보 관리서버

170 : 단문문자 서비스(SMS : Short Message Service) 서버

도면 1
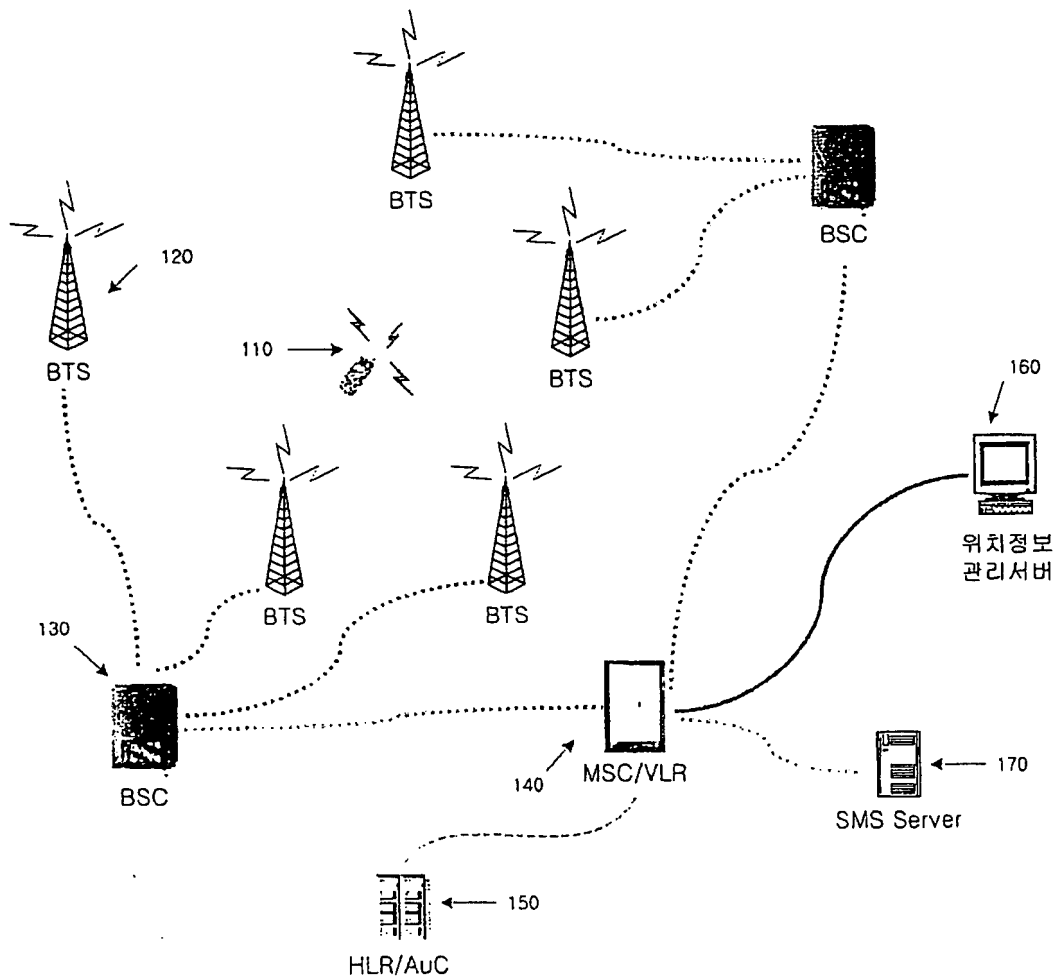
도 2 는 본 발명에 의한 저전력형 다기능 소형 CDMA 무선송수신 장치의 블록 구성도

도 2

8
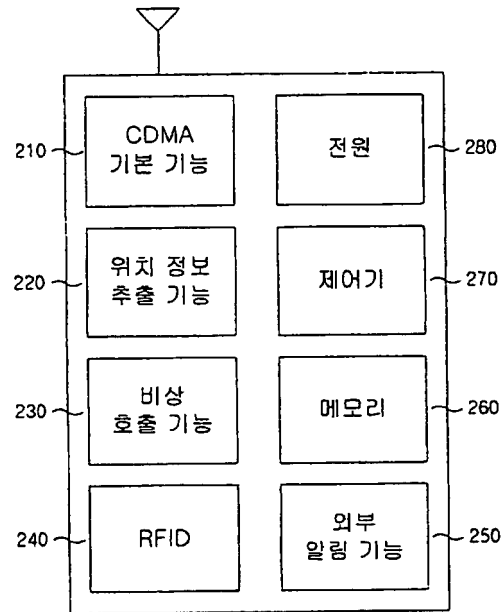
도 3은 보호자의 위치정보 또는 외부알림 요청과 피보호자의 비상호출 요청시의 전체적인 흐름도

도 3
채색된 부분은 무선송수신 장치(110)의 구성 블록

1) 보호자의 위치정보, 외부알림 요청

```
┌──────┐   ┌──────┐   ┌──────┐   ┌──────┐   ┌──────┐
│위치정보│ → │위치정보│ → │이동통신망│ → │ CDMA │ → │ 제어기 │
│ 요청 │   │관리서버│   │      │   │기본 기능│   │      │
└──────┘   └──────┘   └──────┘   └──────┘   └──────┘

┌──────┐   ┌──────┐   ┌──────┐   ┌──────┐   ┌──────┐
│보호자에│ ← │위치정보│ ← │이동통신망│ ← │ CDMA │ ← │위치정보│
│ 통보 │   │관리서버│   │      │   │기본 기능│   │추출 기능│
└──────┘   └──────┘   └──────┘   └──────┘   └──────┘
```

```
┌──────┐   ┌──────┐   ┌──────┐   ┌──────┐   ┌──────┐
│외부알림│ → │위치정보│ → │이동통신망│ → │ CDMA │ → │ 제어기 │
│ 요청 │   │관리서버│   │      │   │기본 기능│   │      │
└──────┘   └──────┘   └──────┘   └──────┘   └──────┘

                                  ┌──────┐   ┌──────┐
                                  │외부알림│ ← │ 메모리 │
                                  │ 기능 │   │      │
                                  └──────┘   └──────┘
```

2) 피보호자의 비상호출

```
┌──────┐   ┌──────┐   ┌──────┐   ┌──────┐   ┌──────┐
│비상호출│ → │비상호출│ → │ 제어기 │ → │위치정보│ → │ 메모리 │
│ 요청 │   │ 기능 │   │      │   │추출 기능│   │      │
└──────┘   └──────┘   └──────┘   └──────┘   └──────┘

┌──────┐   ┌──────┐   ┌──────┐   ┌──────┐
│보호자에│ ← │위치정보│ ← │이동통신망│ ← │ CDMA │
│ 통보 │   │관리서버│   │      │   │기본 기능│
└──────┘   └──────┘   └──────┘   └──────┘
```

9
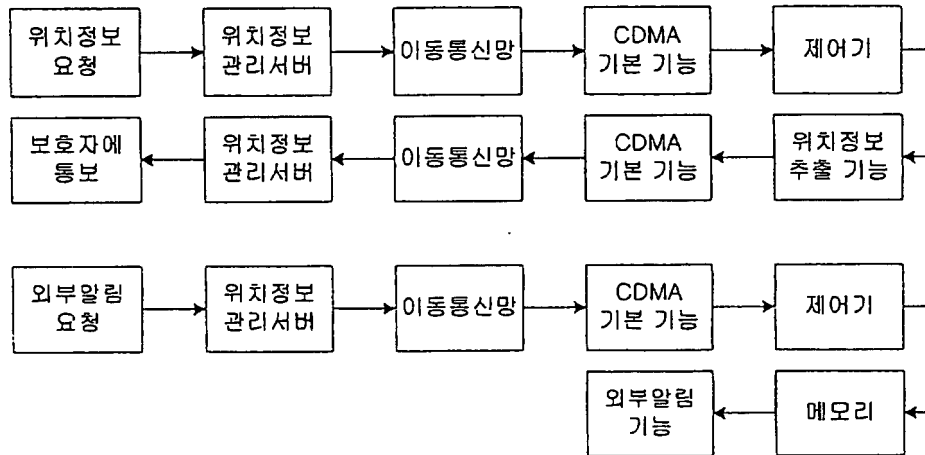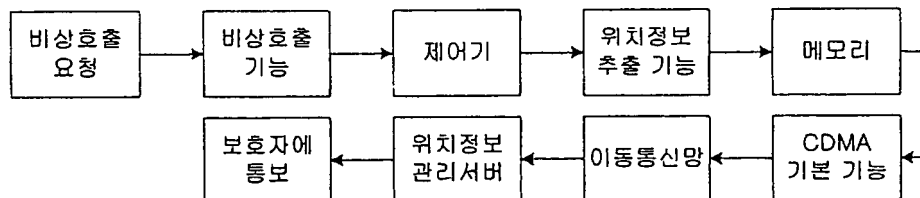
도 4 는 본 발명에서 제안하고 있는 휴대 단말기의 전원 소모를 최소화하기 위한 등록 판단 방법 순서도

도면 4

```
                    ( Power On )
                          │
                          ▼
        410 ─┐    ┌─────────────────┐
             └──→ │  위치 등록 수행   │ ←──────────────────┐
                  └─────────────────┘                      │
                          │                                │
                          ▼                                │
        415 ─┐    ┌─────────────────┐                      │
             └──→ │ 시간 및 거리기준  │                      │
                  │  타이머 초기화   │                      │
                  └─────────────────┘                      │
                          │                                │
                          ▼                                │
        420 ─┐    ┌─────────────────┐                      │
             └──→ │  현재 위치 계산   │                      │
                  └─────────────────┘                      │
                          │                                │
                          ▼                                │
        425 ─┐       ╱ 기지국의 ╲        예                 │
             └──→  ◇  등록 요구 ? ◇ ──────────────────────→│
                      ╲        ╱                           │
                          │ 아니오                          │
                          ▼                                │
        430 ─┐       ╱ 거리기준 ╲                           │
             └──→  ◇ 타이머 exprie ? ◇                      │
                      ╲        ╱                           │
                          │ 예                              │
                          ▼                                │
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                          │                                │
                          ▼                                │
        440 ─┐       ╱ 임계치2 이상 ╲     예                 │
             └──→  ◇  위치 변동 ?  ◇ ─────────────────────→│
                      ╲         ╱                          │
                          │ 아니오                     예   │
                          ▼                                │
        445 ─┐    ╱ 시간기준 ╲     예    ╱ 임계치1 이상 ╲    │
             └─→ ◇ 타이머 expire ? ◇ ──→ ◇  위치 변동 ? ◇─ 460
                  ╲         ╱            ╲         ╱
                      │ 아니오               │ 아니오
                      ▼                      ▼
        450 ─┐ ┌──────────────┐    ┌──────────────┐
             └→│  거리기준     │ ←─ │  시간기준     │─ 455
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               └──────────────┘    └──────────────┘
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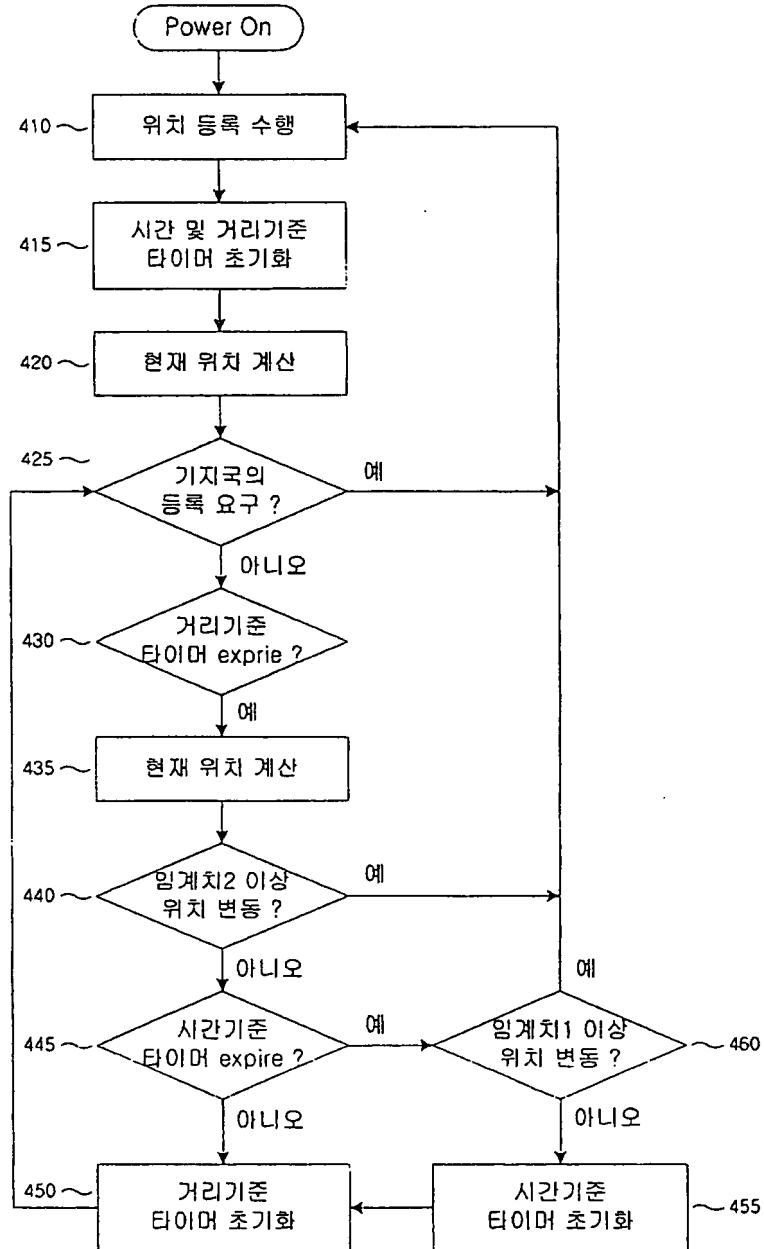
EXHIBIT B

UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
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MARCH 09, 2007   PTAS   ***500236859A***

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP   *500236859A*
300 SOUTH WACKER DRIVE
ROBERT J. IRVINE III
CHICAGO, IL 60606

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RECORDATION DATE: 03/09/2007   REEL/FRAME: 018990/0136
                                    NUMBER OF PAGES: 51

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).
DOCKET NUMBER: 05-616-B; 05-476-C

ASSIGNOR: DOC DATE: 04/27/2004
   HYUNDAI SYSCOMM, INC.

ASSIGNEE:
   UTSTARCOM KOREA LIMITED
   SAN 136-1, AMI-RI, BUBAL-EUB,
      ICHEON-SI
   GYEONGGI-DO, DEM REP OF KOREA

   467-701

SERIAL NUMBER: 10561351   FILING DATE:
PATENT NUMBER: ISSUE DATE:
TITLE: METHOD FOR AUTOMATICALLY SETTING A FREQUENCY OF A BASE STATION IN A
       CDMA-2000 SYSTEM

018990/0136 PAGE 2

SERIAL NUMBER: 10567529   FILING DATE:
                                   ISSUE DATE:
PATENT NUMBER:
TITLE: APPARATUS AND METHOD FOR TRACKING THE POSITION OF A PERSON/OBJECT
       USING A MOBILE COMMUNICATION NETWORK

ASSIGNMENT SERVICES BRANCH
PUBLIC RECORDS DIVISION

PATENT ASSIGNMENT

Electronic Version v1.1
Stylesheet Version v1.1

03/09/2007
500236859

SUBMISSION TYPE:	NEW ASSIGNMENT

NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Hyundai Syscomm, Inc.	04/27/2004

RECEIVING PARTY DATA

Name:	UTStarcom Korea Limited
Street Address:	San 136-1, Ami-Ri, Bubal-eub, Icheon-si
City:	Gyeonggi-do
State/Country:	KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF
Postal Code:	467-701

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	10561351
Application Number:	10567529

CORRESPONDENCE DATA

Fax Number: (312)913-0002

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 3129130001
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Address Line 4:   Chicago, ILLINOIS 60606

ATTORNEY DOCKET NUMBER:	05-616-B; 05-476-C

NAME OF SUBMITTER:	Robert J. Irvine III

Total Attachments: 49
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Registered No. 2004 - 6060

NOTARIAL CERTIFICATE

DAE JONG LEGAL CORPORATION

160, Dang Joo-Dong, Jong Ro-Ku,
Seoul, Korea

KIM & CHANG

Hannuri Building, 219 Naeja-dong, Jongno-gu, Seoul 110-053, Korea
Telephone: (822) 764-8855 / 2122-3900   Fax: (822) 741-0328 / 745-5954 / 763-7434
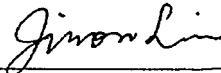E-Mail: all@ip.kimchang.com

DECLARATION

I, the undersigned, hereby declare:

(1) That my name, mailing address and citizenship are as stated below;

(2) That I am knowledgeable in both English and Korean, which are the languages used in relation to the Assignment filed with the Korean Intellectual Property Office; and

(3) That I have translated said Assignment filed with the Korean Intellectual Property Office into English, a copy of which is attached hereto, and believe that said translation is a true and complete translation of the aforementioned Korean Assignment.

22nd day of November, 2004

Full name of the translator : LIM, Ji Won

Signature of the translator : _____

Mailing address :   c/o Kim & Chang, Hannuri Building, 219 Naeja-dong,
                     Jongno-gu, Seoul 110-053, Korea, Republic of Korea

Citizenship : Republic of Korea

ASSIGNMENT

By this instrument, HYUNDAI SYSCOMM, INC., a corporation duly organized and existing under the Laws of Republic of Korea at San 136-1, Ami-ri, Bubal-eub, Icheon-si, Gyeonggi-do 467-701, Republic of Korea do hereby declare that on April 27, 2004 it has assigned and transferred all rights, title and interest in the cases as listed in the attached Schedule I to UTStarcom Korea Limited, a corporation duly organized and existing under the laws of Republic of Korea at San 136-1, Ami-ri, Bubal-eub, Icheon-si, Kyongki-do 467-701, Republic of Korea

IN WITNESS WHEREOF,

I have set my hand hereto this ___27th___ day of__April__, 2004.

Assignor: HYUNDAI SYSCOMM INC.

By: (SEALED)

Typed Name: SEONG-IK JANG

Position: CEO & President

No.	Korean Patent Application No.
1	1996009524
2	1996025985
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UNITED STATES PATENT AND TRADEMARK OFFICE
(Attorney Docket No. 05-476-C)

In re Application of:)
)
    Choon Geun CHO   ) Examiner: TBA
)
International Application No.: PCT/KR2004/002466) Group Art Unit: TBA
U.S. Application No.:   10/567,529)
) Confirmation No. 9262
International Filing Date: September 24, 2004)
U.S. Filing Date: February 7, 2006)
)
For: Apparatus And Method For Tracking The)
    Position/Object Using A Mobile)
    Communication Network)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION IN SUPPORT OF PETITION UNDER 37 C.F.R. § 1.47(b) BY PERSON HAVING PROPRIETARY INTEREST TO FILE APPLICATION ON BEHALF OF INVENTOR WHOM WE HAVE BEEN UNABLE TO LOCATE

Dear Sir:

This Declaration is in support of Petition under 37 C.F.R. § 1.47(b) to allow

UTStarcom, Inc. to make the application on behalf of inventor Choon Geun CHO, who

we have been unable to locate.

1.   I, **Jiwon LIM**, am a paralegal at the law firm Kim & Chang.

2.   I have first-hand knowledge of the facts recited herein.

3.   This Declaration is in support of U.S. Patent Application entitled

"Apparatus And Method For Tracking The Position/Object Using A Mobile

Communication Network," filed in the U.S. Patent Office on August 16, 2005 and bearing

U.S. Application No. 10/560,142 and International Application No. PCT/KR2004/001856.

4.   I am a paralegal at the law firm Kim & Chang, located at Hungkuk Life Insurance Building, 9F, 226 Sinmunno 1-ga, Jongno-gu, Seoul 110-786, Korea.

5.   Kim & Chang represents UTStarcom Korea Limited, a subsidiary of UTStarcom, Inc.

6.   I am a citizen of Korea, residing at 840-7 Mia-dong, Gangbuk-gu, Seoul 142-820, Republic of Korea.

7.   On May 22, 2006, I sent a letter, via content-certified mail, including assignment documents and the Inventor's Declaration of Invention, to Mr. Choon Geun CHO's last known physical address (Siyeong Apt. 118-311, Garak-dong, Songpa-gu, Seoul 138-705, Republic of Korea). (See attached Exhibit 1).

8.   On May 29, 2006, the content-certified package mailed to Mr. CHO was returned because Mr. CHO was not present at the indicated address. (See attached Exhibit 2).

9.   On February 12, 2007, I sent a letter, including the entire U.S. Application as filed, to the inventor's last known address via registered mail.   This letter was returned because Mr. CHO was not present at the indicated address. (See attached Exhibit 3).

10.   I attempted to find Mr. CHO's phone number using Korea Information Services (KOIS). The Korea Information Service Corporation (KOIS) is essentially the Korean version of "411" and other directory assistance services. An English version of the website that describes the services that KOIS provides can be found at www.ekois.co/kr/new/eng/main/index.php. (See also attached Exhibit 4). KOIS is the largest and most comprehensive directory service in Korea. KOIS maintains a large database that is searchable for the contact information of listed people and companies. However, much like "411", written confirmation of results is not provided by KOIS, as it is a telephonic service.   Korea Information Services confirmed that no

number was registered under Mr. CHO's name and his last known address. All efforts to obtain a current address, phone number, or email address, using KOIS have failed to provide new information concerning the whereabouts of Mr. CHO.

11.   I also attempted to find the inventor's E-mail address using all well-known webmail services.   Korean webmail services require a user's full name and residence ID when a user signs up for webmail service.   The webmail services verify the entered name and residence ID using a server of one of the public certification authorities. Therefore, using Mr. CHO's full name and residence ID is the most effective way to search for his webmail address; performing a broader search using a partial name and omitting a residence ID number would not be effective.   I was not successful in locating an e-mail address for Mr. CHO.   (See attached Exhibit 5).

12. I also attempted to find Mr. CHO's telephone number using a web-based search engine (www.local.paran.com/tel/) using Mr. CHO's name and partial address. The searches performed were designed to be as broad as possible in order to locate the inventor. Because CHO is a very common surname in Korea, searching by Mr. CHO's surname would not provide sufficient specificity such that I could expect to locate the correct individual. These searches were also unsuccessful. (See attached Exhibit 6).

13.   I visited the inventor's last known address at 3:50 pm on February 12, 2007, and met no one at the address. I met a woman who resides next door, and inquired of Mr. CHO. She did not know the current occupant of the address. (See attached Exhibit 7)

14.   Finally, I visited the local Town Office (Garak 1-dong office) at 4:55pm on February 12, 2007 and met an officer, Ms. Hyunsook Jang, who confirmed that the current occupant of the inventor's last known address is a Mr. PARK, not Mr. CHO. However, she was unable to provide written confirmation of this information without an

official document authorizing that such a confirmation be issued with regard to the inventor.

15.   I hereby declare that all statements made herein are of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made under penalty of perjury and that such willful false statements may jeopardize the validity of the specification or any patent issued thereon.

Respectfully submitted,

Date: _June 11, 2007_   By: _____

Jiwon LIM
Kim & Chang
Hungkuk Life Insurance Building, 9F,
226 Sinmunno 1-ga, Jongno-gu,
Seoul 110-786, Korea

DECLARATION IN SUPPORT OF PETITION UNDER 37 C.F.R. § 1.47(b) BY PERSON HAVING PROPRIETARY INTEREST TO FILE APPLICATION ON BEHALF OF INVENTOR

Dear Sir:

This Declaration is in support of Petition under 37 C.F.R. § 1.47(b) to allow UTStarcom, Inc. to make the application on behalf of the non-signing inventor(s) listed in **Schedule A**, column 3, whom we have been unable to locate.

1.   I, **Joo-Young Kim**, am a citizen of Korea, residing at Sangyong, Apt No. 103-1101, Sungsu-dong 1-ga 16/3, Sungdong-gu, Seoul, Republic of Korea.

2.   I am a Korean patent attorney with the law firm of Kim & Chang, located at Hungkuk Life Insurance Building, 9F, 226 Sinmunno 1-ga, Jongno-gu, Seoul 110-786, Korea.

3.   On behalf of Kim & Chang, I am representing UTStarcom Korea Limited, a wholly owned subsidiary of UTStarcom, Inc.

4.   I am knowledgeable regarding Korean Patent Law.

5.   I submit this declaration in support of the accompanying memorandum of law.

6.   The Korean company Hyundai Syscomm filed the Korean National Application listed in **Schedule A, Column 6** as the applicant of record, with inventor(s) in **Schedule A, column 3** listed as the inventor(s).

7.   The filing of the above-referenced Korean Application by Hyundai Syscomm was not opposed by the Examiner or any third party including the employee/inventor.

8.   On April 27, 2004, UTStarcom, Inc., through its wholly owned subsidiary UTStarcom Korea Limited, acquired Hyundai Syscomm's Intellectual Property Portfolio, including the rights to the Korean National Application listed in Schedule A, column 6, and duly recorded this change of ownership with the Korean Intellectual Property Office without objection.

9.   As a result of the acquisition, UTStarcom, Inc. became the sole proprietary owner of Hyundai Syscomm's Intellectual Property Portfolio, which includes the above-referenced Korean National Application.

10.   UTStarcom Korea Limited filed the PCT application listed in Schedule A, column 8, claiming priority to the above-referenced Korean National Application.

11.   The above-referenced PCT application entered U.S. National phase in the United States on the date listed in Schedule A, column 5, having the U.S. Application Serial Number listed in Schedule A, column 4.
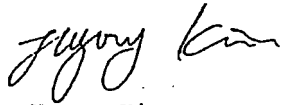
12.   I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the

United States Code and that such willful false statements may

jeopardize the validity of the application or any patent issued

thereon.

Respectfully submitted,

Date: *16 – January – 2007*   By: *[signature]*

Joo-Young Kim
Kim & Chang
Hungkuk Life Insurance Building,
9F,

226 Sinmunno 1-ga, Jongno-gu,
Seoul 110-786, Korea

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**MEMORANDUM OF LAW IN SUPPORT OF PETITION UNDER 37 C.F.R. §
1.47(b) BY PERSON HAVING PROPRIETARY INTEREST TO FILE APPLICATION
ON BEHALF OF INVENTOR**

This memorandum of law is in support of Petition under 37
C.F.R. § 1.47(b) to allow UTStarcom, Inc. ("UTStarcom") to make
the application on behalf of a non-signing inventor.

BACKGROUND

UTStarcom submitted a Petition under 37 C.F.R. § 1.47(b) to
allow UTStarcom to make the Application on behalf of the inventor
listed in Schedule A, whom UTStarcom has been unable to locate.
The Petition was denied on the grounds that UTStarcom allegedly
failed to establish a proprietary interest in the above-
referenced U.S. Application.

STATEMENT OF FACTS

All facts in support of the argument and conclusion are set
forth in the Declaration of Joo-Young Kim under M.P.E.P.
409.03(f).

ARGUMENT AND CONCLUSION

UTStarcom should be awarded title to the above-referenced
U.S. Application because UTStarcom, as the assignee of patent
rights to the underlying Korean Application and subsequent patent
applications granted by the assignor Hyundai Syscomm Inc.
("Hyundai Syscomm"), is the sole proprietary owner of the U.S.
Application.

Under Korean Patent Law, UTStarcom is recognized as the owner of the Korean Application. First, the Korean Intellectual Property Office recognizes UTStarcom as the current owner of the Korean Application as a matter of record. Second, the invention disclosure form executed by the inventor in favor of Hyundai Syscomm, which includes an assignment of the subject matter of the Korean Application from the inventor to Hyundai Syscomm, is more than sufficient to overcome any challenge to UTStarcom's ownership interest.

The Korean Patent Act provides that a patent application of an employee may be filed directly by the employee's company, without an explicit assignment from the employee to the employee's company. Korean Patent Act, Article 42. Unless the examiner or a third party contests the company's right to file the application, the company becomes the owner of the application for all intents and purposes. Thus, even in the absence of an employee-inventor assignment, a Korean Patent Application filed by a company without contest by others is the proprietary owner of the patent rights. See Korean Patent Act, Article 42, Para 1.

In the instant case, Hyundai Syscomm filed the Korean National Application , listed in Schedule A, as the named applicant. The filing of the application was not contested by the Examiner or any third party. Thus, under Korean Law, Hyundai Syscomm became the owner of the Korean application even in the absence of an employee inventor assignment. Subsequently, the Hyundai Syscomm's patent portfolio, including the above-mentioned Korean Application, was assigned to UTStarcom. This assignment was recorded with the Korean Intellectual Property Office, without objection, making UTStarcom the legal owner of the above-mentioned Korean Application.

Under the present circumstances, only the inventor(s) may challenge the legitimacy of Hyundai Syscomm's ownership of the

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Korean Application. Korean Patent Act, Articles 34 and 35.

However, any challenge by the inventor(s) would fail under Korean

Patent Law. The inventor(s) executed an invention disclosure

form, which assigns the subject matter of the Korean Application

to Hyundai Syscomm. Because the subject matter described in the

invention disclosure form is virtually identical to the subject

matter contained in the Korean Application, the assignment

therein would be deemed by a Korean court of law to assign the

Korean Application to Hyundai Syscomm. See In-Chul Choi v.

Samsung Electonics Co., Ltd., 2001 Gahap 13977 (Seoul District

Court, August 22, 2002) (recognizing the validity of the

assignment based on the content in the invention disclosure form

despite the absence of a specific application number reference).

Thus, even if challenged, the chain of title of the Korean

Application would be sustained under Korean Patent Law and

UTStarcom would remain the ultimate owner.

    This ownership of the Korean Application, in conjunction

with the other assignment terms of the acquisition agreement

previously submitted, establishes UTStarcom's rights to the

subsequent PCT application and U.S. national phase application.

Thus, UTStarcom has a proprietary interest in the referenced U.S.

Application (listed in Schedule A), and should be allowed to make

the application in U.S. on behalf of the missing inventor under

37 C.F.R. § 1.47(b).

                                    Respectfully submitted

Date: _June 11, 2007_   By: _____
                                Joo-Young Kim
                                Kim & Chang
                                Hungkuk Life Insurance Building, 9F,
                                226 Sinmunno 1-ga, Jongno-gu,
                                Seoul 110-786, Korea

                                    3

Exhibit 1

[KOREAN PATENT ACT]

제34조 (무권리자의 특허출원과 정당한 권리자의 보호)
발명자가 아닌 자로서 특허를 받을 수 있는 권리의 승계인이 아닌 자(이하 "무권리자"라 한다)가 한 특허출원이 제33조제1항 본문의 규정에 의한 특허를 받을 수 있는 권리를 가지지 아니한 사유로 제62조 제2호에 해당되어 특허를 받지 못하게 된 경우에는 그 무권리자의 특허출원후에 한 정당한 권리자의 특허출원은 무권리자가 특허출원한 때에 특허출원한 것으로 본다. 다만, 무권리자가 특허를 받지 못하게 된 날부터 30일을 경과한 후에 출원을 한 경우에는 그러하지 아니하다.

제35조 (무권리자의 특허와 정당한 권리자의 보호)
제33조제1항 본문의 규정에 의한 특허를 받을 수 있는 권리를 가지지 아니한 사유로 제69조 제1항 제2호에 해당되어 특허취소결정이 확정된 경우 또는 제33조 제1항 본문의 규정에 의한 특허를 받을 수 있는 권리를 가지지 아니한 사유로 제133조 제1항 제2호에 해당되어 특허를 무효로 한다는 심결이 확정된 경우에는 그 특허출원후에 한 정당한 권리자의 특허출원은 취소 또는 무효로 된 그 특허의 출원시에 특허출원한 것으로 본다. 다만, 그 특허의 등록공고가 있는 날부터 2년을 경과한 후에 특허출원을 하거나 취소결정 또는 심결이 확정된 날부터 30일을 경과한 후에 특허출원을 한 경우에는 그러하지 아니하다.

[TRANSLATION]

Article 34 (Patent Application Filed by an Unentitled Person and Protection of the Lawful Holder of a Right)
Where a patent cannot be granted because an application was filed by a person who is not the inventor or a successor to the right to obtain a patent (referred to as "an unentitled person") under Article 33(1) as prescribed in Article 62(ii), a subsequent application filed by the lawful holder of the right is deemed to have been filed on the filing date of the earlier application filed by the unentitled person. This provision does not apply, however, if the subsequent application is filed by the lawful holder of the right more than thirty days after the date on which the application filed by the unentitled person was rejected.

Article 35 (Patent Granted to an Unentitled Person and Protection of the Lawful Holder of a Right)
Where a decision to revoke a patent becomes final for lack of entitlement to obtain a patent under Article 33(1) as prescribed in Article 69(1)(ii) or a decision to invalidate becomes final due to a lack of entitlement under Article 33(1) as prescribed in Article 133(1)(ii), a subsequent application filed by the lawful holder of the right is deemed to have been filed on the filing date of the revoked or invalidated application. However, this provision does not apply if the subsequent application is filed more than two years after the publication date of the first application or more than thirty days after the decision to revoke or invalidate becomes final.

[KOREAN PATENT ACT]	[TRANSLATION]

[KOREAN PATENT ACT]

제 42 조 (특허출원)

①특허를 받고자 하는 자는 다음 각호의 사항을 기재한 특허출원서를 특허청장에게 제출하여야 한다.

1. 특허출원인의 성명 및 주소(법인인 경우에는 그 명칭 및 영업소의 소재지)
2. 특허출원인의 대리인이 있는 경우에는 그 대리인의 성명 및 주소나 영업소의 소재지(대리인이 특허법인인 경우에는 그 명칭, 사무소의 소재지 및 지정된 변리사의 성명)
3. 삭제
4. 발명의 명칭
5. 발명자의 성명 및 주소
6. 삭제

[TRANSLATION]

Article 42 (Patent Application)

(1) A person seeking to register a patent shall file a patent application with the Commissioner of the Korean Intellectual Property Office, stating the following:

(i) the name and address of the applicant (and, if a legal entity, the name and address of the business);

(ii) the name and residential or business address of the agent, if any (and, if the agent is a patent legal entity, the name and address of the business and the name of the designated patent attorney);

(iii) deleted;

(iv) the title of the invention;

(v) the name and address of the inventor;

(vi) deleted.

Exhibit 2

Seoul Southern District Court

Judgment

Case No.	2001 Gahap 13977
Plaintiff:	In Chul Choi
Defendant:	Samsung Electronics Ltd.
Pronouncement:	August 22, 2002

ORDER

The confirmation claim of the present action is dismissed.

Tenor of Complaint

Plaintiff hereby seeks confirmation that the patented inventions, described in the patent right list of the accompanying sheet, do not belong to an in-service invention.

GROUNDS

1. Findings of Facts

A.   The Defendant's company, taking fabrication, sale, etc. of communication mechanisms and related devices as its objective under its constitution, has manufactured mobile-phone terminals since May of 1989. The Plaintiff entered the Defendant's company on January 10, 1989, and had served as a member of a team known as the "Time Machine Team (TMT)" between July 13, 1992 and February 16, 1995.

B.   TMT of the Defendant's company is a department that was organized by selecting incumbent staff to create ideas for new product development. TMT holds a weekly evaluation meeting, where team members exchange ideas equipped with marketability and practicability, and hold quarterly meetings that report the results to the board of directors, assigning no specific tasks to its team members.   The Plaintiff was mainly focused on conceiving and commercializing a new Hangul inputting method, submitting a report titled "Value of Text in the Multimedia World" showing the needs and practicability

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of a new Hangul inputting method on May 20, 1994, and a report titled "First report regarding commercialization drive of a new Hangul inputting method" on July 18, 1994, together with his teammate, Dong Ki Rui.

C.　　During his tenure on TMT, the Plaintiff invented "Method and Apparatus for Generating Text Inputting Codes (hereinafter, referred to as the 'first invention')," described in patent right list 1 of the accompanying sheet, and transferred the right to obtain a patent for the Defendant's company while providing an in-service invention report on the first invention on February 19, 1993. The Defendant's company filed a patent application for the first invention in its name on July 6, 1993, and completed the patent registration on March 13, 1996.

D.　　Furthermore, the Plaintiff, together with his teammate, Dong Ki Rui, invented "Method and Apparatus for Generating Text Inputting Codes (hereinafter, referred to as the 'second invention')" described in patent right list 2, and transferred the right to obtain a patent for the Defendant's company while providing an in-service invention report on the second invention on October 13, 1994. The Defendant's company filed a patent application for the second invention in its name on May 11, 1995, and completed the patent registration on August 10, 1998.

E.　　The Defendant's company has manufactured and sold mobile-phone terminals using the text inputting methods of the inventions since November of 1998.

2.　　The Plaintiff's Claims and Holding thereon

A.　　Gist of the Plaintiff's Claims

The Plaintiff seeks: (a) confirmation that the fist and second inventions are not an in-service invention, arguing that the inventions were misconceived as an in-service invention and filed in the name of the Defendant's company although they actually belong to a liberal invention; and (b) the Defendant's return of 1 billion KrW as part of an unjust enrichment, arguing that since the contracts of transfer were based on a misconception for

the inventions to be an in-service invention are invalid, the Defendant is not a legitimate patentee and has an obligation to return, to the Plaintiff, the profits earned by practicing the inventions as an unjust enrichment.

B.   Relevancy of the Confirmation Claim

The Defendant made a defense prior to a main hearing that the Plaintiff's confirmation claim lacks eligibility and thus is irrelevant because it seeks confirmation of a factual matter.   The Plaintiff seeks the confirmation for the first and second inventions to not be an in-service invention as a basis for the unjust enrichment return claim being sought by the present action.   This is to confirm part of a legal requirement fact, and thus is irrelevant.   Furthermore, the confirmation stake of a confirmation action can be recognized if the obtainment of a confirmation judgment is the most effective and appropriate means for eliminating the challenge and risk when the plaintiff's legal status is challenged and risked.   However, as will be seen in item C. (1), even though the first and second inventions were not an in-service invention, this would not affect the patent right registered in the name of the Defendant's company, unless the invalidation decision is rendered and becomes final and conclusive in a patent registration invalidation trial.   Therefore, because seeking the confirmation for the inventions to not be an in-service invention cannot be seen as an effective and appropriate means, the Plaintiff's confirmation claim of the present action is irrelevant.

C.   Unjust Enrichment Return Claim

(1)   The Plaintiff argues first, that since the first and second inventions are not an in-service invention but a liberal one, each contract for transferring each right to obtain a patent to the Defendant is invalid per se for primitive impossibility of the objective of a legal activity or under Article 39, Paragraph 1 of the Patent Act, or invalid for violating Article 103 of the Civil Code.

In regard to this, if the first and second inventions belong to a liberal invention, Article 39, Paragraph 1 of the Patent Act stipulates that an invention constitutes an in-service invention if the invention was made by an employee, etc. in connection with his/her service and falls by nature within the business

range of the employer, etc., and the activity resulting into the invention was part of the present or past duties of the employee, etc.

As previously seen, the Defendant's company takes the fabrication and sale of communication mechanisms as one of its founding objectives, and has set the mobile-phone terminal as one of the primary manufactured items from the year of 1989 through to the present time. Since the inventions are directed to a text inputting method usable for mobile-phone terminals, these are regarded to fall within the business range of the Defendant's company. Furthermore, the Plaintiff's then duty was to create ideas for new products development in the field of the information and telecommunication at the time of conceiving each invention, and the Plaintiff reached the first and second inventions substantially as a result of focusing mainly on collecting ideas for a Hangul inputting method. As such, each invention is determined to fall within the Plaintiff's duty.

Therefore, since the first and second inventions should belong to an in-service invention, the Plaintiff's arguments contend the validity of each transfer contact on premise of the opposite.

(2)   The Plaintiff also argues that since the patent application for the second invention was filed four months after the Defendant's company succeeded to the right to the invention from the Plaintiff, the second invention should be regarded as a liberal invention under Article 11, Paragraph 1 of the Invention Promotion Act, and the Defendant should return unjust enrichment, amounting to the royalty of a non-exclusive license, for failing to obtain consent to a non-exclusive license from the inventor Plaintiff under Article 2 of the same.

Article 11 of the Invention Promotion Act views an invention as a liberal invention in case an employer, etc. fails to file a patent application within a period designated under the Presidential Order (Article 5 of the same designates the period for four months) after succeeding the right to an in-service invention or waive filing of the application in writing (Paragraph 1), and stipulates that the employer, etc. cannot own a non-exclusive license to the in-service invention being regarded as a liberal one without the consent of the employee, etc in spite of Article 39, Paragraph 1 of the Patent Act (Paragraph

2). The fact that the Defendant's company filed the application for the second invention on May 11, 1995, four months passing from October 13, 1994 when the Defendant's company succeeded to the right to the second invention from the Plaintiff, is as previously seen.

However, even if the Defendant's company had completed the patent registration in its name, although the transfer contract of the second invention was invalidated under the above provision and the Defendant's company did not have a right to obtain a patent, the Plaintiff could not assert invalidity of the patent right having been registered in the name of the Defendant's company until the patent invalidation decision goes final and conclusive. Of course, the Plaintiff could request a patent invalidation trial based on the above grounds, which however, is not feasible here. Therefore, the Defendant has a right to legally practice the invention, and needs not obtain consent of the Plaintiff for practicing the invention because the Plaintiff did not register the patent in his/her own name. As such, the Plaintiff's above arguments are groundless and unreasonable.

서 울 지 방 법 원

남 부 지 원

판 결

사 건   **2001가합13977호**

원 고   최인철

피 고   삼성전자주식회사

판 결 선 고   2002. 8. 22.

주 문

이 사건 소 중 확인청구 부분을 각하한다.

청 구 취 지

원고와 피고 사이에서 별지 특허권목록 기재 1, 2의 특허발명은 직무발명이 아님을 확인한다.

이 유

1. 기초사실

가.   피고회사는 통신기계기구 및 관련기구와 그 부품의 제작, 판매 등을 그 정관상
의 목적으로 하고, 1989. 5.경부터 이동전화단말기를 생산해 온 회사이고, 원고는
1989. 1. 10. 피고회사에 입사하여 1992. 7. 13.부터 1995. 2. 16.까지 사이에 피고회
사의 '타임머쉰팀'에 소속되어 근무하였다.

나.   피고회사의 '타임머쉰팀'은 신상품개발을 위한 아이디어 창출을 위하여 사내공
모를 통해 직원을 선발, 조직한 부서로 그 팀원들은 구체적인 특정 업무를 맡지 아니
한 채 매주 팀원들간에 시장성과 실현성 있는 아이디어를 제출하는 평가회를 가지고,
분기별로 경영진을 대상으로 그 결과물을 발표하는 정기 보고회를 개최하였는데, 원고
는 같은 팀원인 류동기와 함께 1994. 5. 20. 새로운 한글입력방식의 필요성과 실용화
방안에 관한 '멀티미디어 세계에서 문자의 가치'라는 보고서를, 1994. 7. 18. '새로운
한글입력방법 사업화추진 1차 보고서'를 각 제출하는 등 주로 새로운 한글입력방식의
고안 및 사업화에 주력하였다.

다.   원고는 위 타임머쉰팀에 근무하던 중, 별지 특허권목록 1. 기재의 '문자입력코
드 발생방법 및 장치'(이하 '제1발명'이라 한다)를 발명하고, 1993. 2. 19. 피고회사에
제1발명에 관한 직무발명신고를 하면서 특허받을 권리를 양도하였으며, 피고회사는
1993. 7. 6. 피고회사 명의로 제1발명에 관한 특허를 출원하여 1996. 3. 13. 특허등록
을 마쳤다.

라. 또한 원고는 위 류동기와 함께 위 목록 2. 기재의 '문자입력코드 발생장치 및 방법'(이하 '제2발명'이라 한다)을 발명하고, 1994. 10. 13. 피고회사에 제2발명에 관한 직무발명신고를 하면서 특허받을 권리를 양도하였으며, 피고회사는 1995. 5. 11. 피고회사 명의로 제2발명에 관한 특허를 출원하여 1998. 8. 10. 특허등록을 마쳤다.

마. 피고회사는 1998. 11.경부터 위 발명들의 문자입력방식을 이용한 이동전화단말기를 생산, 판매해 오고 있다.

2. 원고의 청구 및 이에 대한 판단

가. 원고의 청구내용

원고는 ① 위 각 발명은 원고 개인의 자유발명에 해당됨에도 직무발명으로 오인되어 피고 명의로 특허등록이 된 것이라고 주장하면서 제1, 2발명이 직무발명이 아니라는 확인을 구하고, ② 위 발명들을 직무발명으로 오인하고 체결한 각 양도계약이 무효인 이상 정당한 특허권자가 아닌 피고는 위 발명들을 실시하여 얻은 수익을 부당이득으로서 원고에게 반환할 의무가 있다고 주장하면서, 그 일부로서 10억원을 지급할 것을 구한다.

나. 확인청구 부분의 적법성

피고는, 원고의 위 확인청구는 사실관계의 확인을 구하는 것으로 확인의 소의 대상적격이 없어 부적법하다고 본 안전 항변을 하므로 살피건대, 원고의 위 확인청구는 원고가 이 사건 소로써 구하고 있는 부당이득반환청구의 전제로 제1, 2발명이 직무발명이 아니라는 확인을 구하는 취지인바, 이는 법률요건사실 일부의 확인을 구하는 것이어서 부적법하고, 또한 확인의 소에 있어서 확인의 이익은 원고의 법적 지위가 불안, 위험할 때 그 불안, 위험을 제거하는데 있어 확인판결을 받는 것이 가장 유효·적절한 수단인 경우에 인정된다 할 것인데, 아래 다.의 (2)항에서 보는 바와 같이 가사 제1, 2발명이 직무발명이 아니라 하더라도 특허무효심판절차에서 무효심결이 확정되지 아니하는 이상에는 피고회사 명의로 등록된 특허권에 어떠한 효력이 미친다고 볼 수도 없으므로, 위 발명들이 직무발명이 아니라는 확인을 구하는 것은 원고에게 현존하는 법적 불안, 위험을 해소할 수 있는 유효·적절한 수단이라 할 수 없으니, 결국 원고의 이 사건 소 중 확인청구 부분은 부적법하다.

다. 부당이득반환청구 부분

(1)   원고는 먼저, 제1, 2발명은 직무발명이 아닌 자유발명이므로 그 특허받을 권리를 피고에게 양도한 위 각 양도계약은 법률행위 목적의 원시적 불능 또는 특허법 제39조 제3항에 의하여 당연 무효이거나 민법 제103조에 위반되어 무효라고 주장한다.

그러므로 과연 제1, 2발명이 자유발명인지에 관하여 보건대, 특허법 제39조 제1항은 직무발명의 개념에 관하여 종업원 등이 그 직무에 관하여 발명한 것이 성질상 사용자 등의 업무범위에 속하고, 그 발명을 하게 된 행위가 종업원 등의 현재 또는 과거의 직무에 속하는 경우 그 발명은 직무발명이라고 규정하고 있다.

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앞에서 본 바와 같이 피고회사는 통신기계기구의 제작, 판매를 그 설립목적의 하나로 규정하고 있고, 1989년부터 현재까지 이동전화단말기를 주요 생산품목으로 하고 있으며, 위 발명들은 이동전화단말기에 이용될 수 있는 문자입력방식에 관한 발명이므로 피고회사의 업무범위에 속한다 할 것이다. 또한 위 각 발명 당시 원고의 직무는 정보통신부분의 신상품 개발을 위한 아이디어를 창출하는 것으로 실제 한글입력방식에 관한 아이디어 계발에 주력한 결과 제1, 2발명에 이르게 되었으므로 위 각 발명행위는 원고의 직무에 속한다 할 것이다.

따라서 제1, 2발명은 직무발명에 해당한다고 보아야 할 것이므로, 위 발명들이 직무발명이 아님을 전제로 각 양도계약의 효력을 다투는 원고의 주장은 더 나아가 살필 것 없이 이유 없다.

(2)　원고는 또한, 제2발명에서는 피고회사가 원고로부터 발명에 관한 권리를 승계한 때로부터 4개월이 지나서 특허를 출원하였으므로 이는 발명진흥법 제11조 제1항에 의하여 자유발명으로 간주되고, 같은 조 제2항에 따라 발명자인 원고로부터 통상실시에 대한 동의를 받지 아니한 이상 피고는 원고에게 통상실시료 상당의 부당이득을 반환하여야 한다고 주장한다.

살피건대, 발명진흥법 제11조는 사용자 등이 직무발명에 관한 권리를 승계한 후 대통령령이 정하는 기간(같은 법 시행령 제5조는 그 기간을 4개월로 정하고 있다) 내에 출원을 하지 아니하는 경우 또는 서면으로 그 출원을 포기한 경우 당해 발명은 자유발명으로 보고(제1항), 자유발명으로 보는 직무발명에 대하여는 특허법 제39조 제1항의 규정에도 불구하고 당해 발명을 한 종업원 등의 동의를 받지 아니하고는 통상실

시권을 가질 수 없다(제2항)고 규정하고 있고, 피고회사가 원고로부터 제2발명에 관한 권리를 승계한 1994. 10. 13.로부터 4개월이 경과한 1995. 5. 11.에야 위 발명에 관한 특허를 출원한 사실은 앞에서 본 바와 같다.

그러나 가사 위 법률규정에 의하여 제2발명에 관한 양도계약이 무효가 되어 피고회사가 특허를 받을 권리를 가지지 아니함에도 불구하고 그 명의로 특허등록을 마쳤다 하더라도 원고가 그와 같은 사유를 들어 특허무효심판을 청구함은 별론으로 하고 특허무효심결이 확정되기 전에는 피고 명의로 등록된 특허권의 무효를 주장할 수는 없는 것이므로 피고는 특허권자로서 적법하게 그 발명을 실시할 권리가 있고, 또한 원고가 자기 명의로 특허등록을 받지 아니한 이상 피고회사가 위 발명을 실시함에 있어 원고의 동의를 얻어야 한다고 볼 수도 없으므로, 원고의 위 주장은 이유 없다.

SCHEDULE A

	MBHB Reference No.	Title	Inventor(s)	U.S. Application No.	U.S. Filing Date	Korean Application No.	Filing Date (Korean Application)	PCT Application No.	Filing Date PCT National Phase
1	05-386-B	Method For Stabilizing BTS Using E1 Trunk Board Duplexing Of BSC	Se Yeon KIM	10/545,922	August 17, 2005	2003-0018549	March 25, 2003	PCT/KR2004/00645	March 24, 2004
2	05-390-B	Method For Optimizing A DSP Input Clock Using A Comparing/Analyzing Circuit	Seong Chul SHIN	10/545,505	August 12, 2005	2003-0018553	March 25, 2003	PCT/KR2004/00655	March 24, 2004
3	05-392-B	Method For Trunk Line Duplexing Protection Using A Hardware Watchdog	Yeong Weon JUNG	10/545,895	August 17, 2005	2003-0018554	March 25, 2003	PCT/KR2004/00654	March 24, 2004
4	05-428-B	Device for Implementing a RNC Using LVDS	Kyung Hwan AN	10/559,738	December 6, 2005	2003-0051165	July 24, 2003	PCT/KR2004/01858	July 23, 2004
5	05-428-C	Device for Implementing a RNC Using LVDS	Kyung Hwan AN	11/534,965	September 25, 2006	2003-0051165	July 24, 2003	PCT/KR2004/01858	July 23, 2004
6	05-429-B	Method of Allocating Links in a IX EVDO System	Kye Chol CHO	10/560,297	December 12, 2005	2003-0051466	July 25, 2003	PCT/KR2004/01880	July 26, 2004
7	05-432-B	Method for Downloading a Single Firmware Image File to Client Systems Having Different CPU Modules	Chan Soo PARK	10/559,225	December 6, 2005	2003-0051153	July 24, 2003	PCT/KR2004/01853	July 23, 2004
8	05-432-C	Method for Downloading a Single Firmware Image File to Client Systems Having Different CPU Modules	Chan Soo PARK	11/534,970	September 25, 2006	2003-0051153	July 24, 2003	PCT/KR2004/01853	July 23, 2004

	MBHB Reference No.	Title	Inventor(s)	U.S. Application No.	U.S. Filing Date	Korean Application No.	Filing Date (Korean Application)	PCT Application No.	Filing Date PCT National Phase
9	05-433-B	Method for Unifying Operations of Boards by Using Logical Addresses Thereof	Yoon Mi HWANG	10/559,235	December 6, 2005	2003-0051155	July 24, 2003	PCT/KR2004/01855	July 23, 2004
10	05-433-C	Method for Unifying Operations of Boards by Using Logical Addresses Thereof	Yoon Mi HWANG	11/534,960	September 25, 2006	2003-0051155	July 24, 2003	PCT/KR2004/01855	July 23, 2004
11	05-434-B	Method for Establishing an ATM Traffic Channel Path Between a BSC and a BTS in an EV-DO System	Woo Seog KOO	10/560,142	December 9, 2005	2003-0051157	July 24, 2003	PCT/KR2004/001856	July 23, 2004
12	05-438-B	ATM Switch for use in W-CDMA	Cheol Hyun JANG	10/545,578	August 16, 2005	2003-0018557	March 25, 2003	PCT/KR2004/00658	March 25, 2004
13	05-439-B	Remote Unit for Adding Frequency Assignments to a Separation-Type Base Transceiver Station	Jae Ick LEE	10/556,267	November 14, 2005	2003-0034799	May 30, 2003	PCT/KR2004/01276	May 28, 2004
14	05-476-C	Apparatus and Method for Tracking the Position/Object Using a Mobile Communication Network	Choon Geun CHO	10/567,529	February 7, 2006	2003-0066875	September 26, 2003	PCT/KR2004/02466	September 24, 2004
15	05-496-C	Method of Controlling Power in a CDMA-2000 System	Tae Ik SONG	10/568,234	February 14, 2006	2003-0067736	September 30, 2003	PCT/KR2004/02469	September 24, 2004
16	05-497-C	Method of Controlling Power in a W-CDMA Mobile Communication System	Dong Keun KIM	10/569,046	February 22, 2006	2003-0067737	September 30, 2003	PCT/KR2004/02470	September 24, 2004

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	MBHB Reference No.	Title	Inventor(s)	U.S. Application No.	U.S. Filing Date	Korean Application No.	Filing Date (Korean Application)	PCT Application No.	Filing Date PCT National Phase
17	05-498-C	Method of Controlling Data Rate for a Forward Data Service in a CDMA 2000-1X System	Jung Han LEE	10/569,041	February 22, 2006	2003-0067738	September 30, 2003	PCT/KR2004/02471	September 24, 2004
18	05-500-B	ATM Switched Router for Transmitting IP Packet Data	Jung Hee PARK	10/585,586	July 11, 2006	2004-0002981	January 15, 2004	PCT/KR2005/00133	January 14, 2005
19	05-507-B	Apparatus and Method for Dualizing an Asynchronous Transfer Mode (ATM) Router in a CDMA2000 System	Tae Hong KIM	10/585,602	July 11, 2006	2004-0002973	January 15, 2004	PCT/KR2005/00134	January 14, 2005
20	05-509-B	Method for Correcting Time Data in a Network Management Application Using a SNMP	Sang Dae PARK	10/586,086	July 13, 2006	2004-0002979	January 15, 2004	PCT/KR2005/00138	January 14, 2005
21	05-511-B	Apparatus and Method for Sensing Faults of Application Programs in a CDMA System	Ki Sung LYU	10/586,289	July 13, 2006	2004-0002980	January 15, 2004	PCT/KR2005/00139	January 14, 2005
22	05-517-B	Automatic Update System and Method for Using a META MIB	Young Jin KIM	10/586,087	July 13, 2006	2004-0002982	January 15, 2004	PCT/KR2005/00140	January 14, 2005

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	MBHB Reference No.	Title	Inventor(s)	U.S. Application No.	U.S. Filing Date	Korean Application No.	Filing Date (Korean Application)	PCT Application No.	Filing Date PCT National Phase
23	05-518-B	Structure of a Management Information Base Communicated Between a Network Management System and an Agent of a Network Element	Kwang Seok KANG	10/585,838	July 12, 2006	2004-0002983	January 15, 2004	PCT/KR2005/00141	January 14, 2005
24	05-595-B	Method of Distributing Network Traffic in a Mobile Communication System	Hyun Young SHIN	10/556,924	November 14, 2005	2003-0035283	June 2, 2003	PCT/KR2004/01310	June 2, 2004
25	05-597-B	System and Method for Tracking Position of a Mobile Unit Using Beacons in a Mobile Communications System	June Man KIM	10/560,664	December 13, 2005	2003-0050916	July 24, 2003	PCT/KR2004/01851	July 23, 2004
26	05-615-B	Method for Call Completion Service	Sea Gon CHUN	10/556,274	November 14, 2005	2003-0034806	May 30, 2003	PCT/KR2004/01274	May 28, 2004
27	05-616-B	Method for Automatically Setting a Frequency of a Base Station in a CDMA-2000 System	Ju Hyun BAN; Sang Won SON	10/561,351	December 19, 2005	2003-0051154	July 24, 2003	PCT/KR2004/01854	July 23, 2004